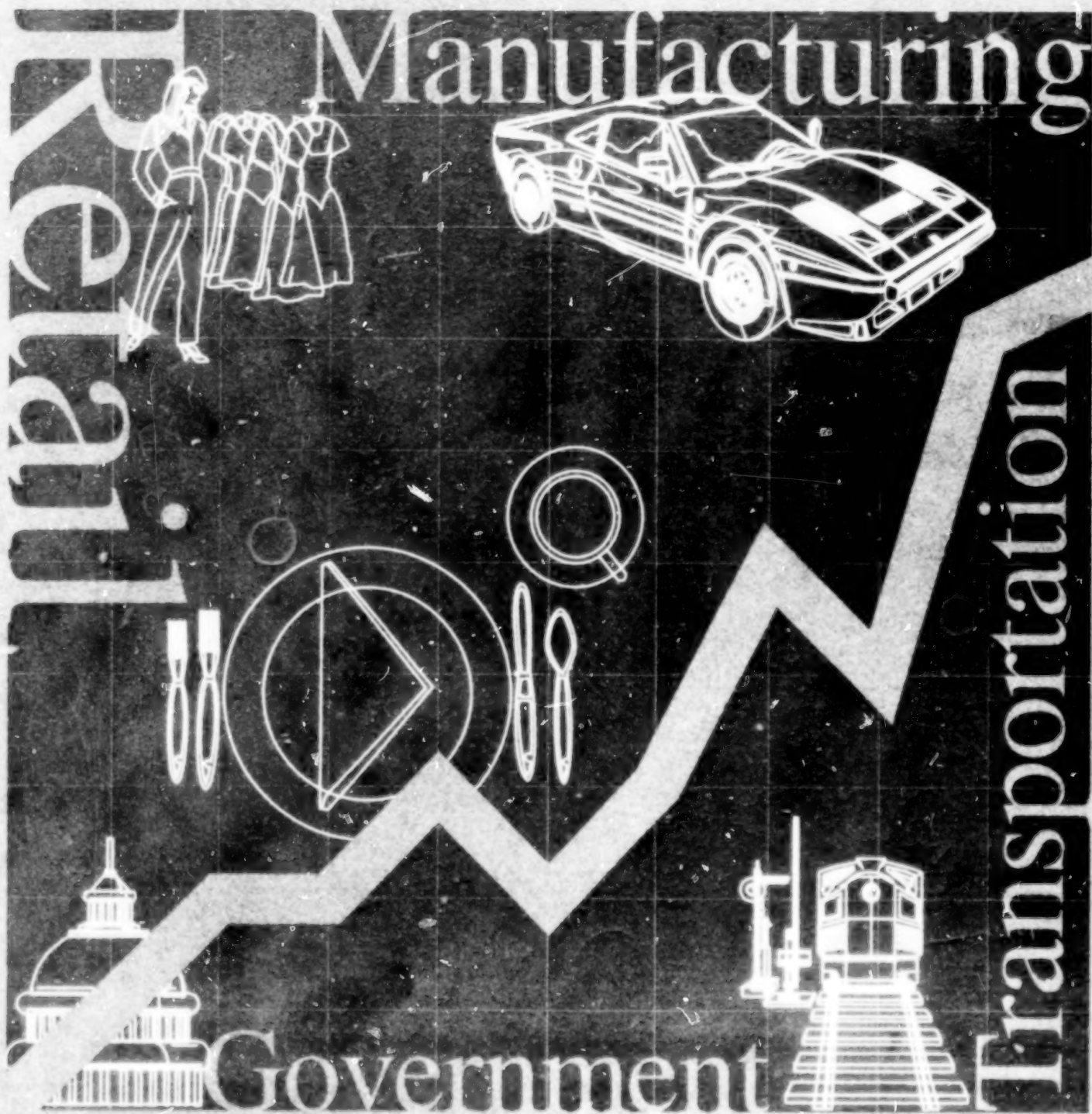


# Productivity Measures for Selected Industries and Government Services

U.S. Department of Labor  
Bureau of Labor Statistics  
March 1994

Bulletin 2440



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U.S. Department of Labor  
Robert B. Reich, *Secretary*

Bureau of Labor Statistics  
Katharine G. Abraham, *Commissioner*


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# Preface

This annual bulletin updates all indexes currently included in the industry productivity measurement program of the Bureau of Labor Statistics (BLS). It contains three sections. Parts I and II discuss labor productivity trends and multifactor productivity trends, respectively, for selected industries, and part III, labor productivity trends for selected government functions.

This bulletin was prepared in the Bureau's Office of Productivity and Technology, under the direction of Kent Kunze, Acting Chief of the Division of Industry Productivity Studies. Industry labor productivity measures were prepared by: Ziaul Ahmed, Robert Critchlow, Daniel Curtin, Mark Dumas, John Ferris, Brian Friedman, J. Edwin Henneberger, Clyde Huffstutler, Virginia Klarquist, Alexander Kronemer, Temple Lee, Richard Lyon, John Olsen, Craig Saunders, Mark Sieling, Miranda Simmons, Patricia Wilder, and James York, under the direction of Richard Carnes and Kent Kunze. Multifactor productivity measures were prepared by: Mary Jablonski, Paul Kern, Thomas Muth, and Clayton Waring, under the direction of John Duke. Government productivity

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The data presented in this bulletin supersede the series published in News Release USDL 93-510, November 23, 1993. The 1992 data in this bulletin are preliminary and are subject to future revision. A detailed description of the methods used to construct these indexes can be found in appendix A, "Methods and Data Sources," of this bulletin.

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Further information concerning the indexes covered in this bulletin can be obtained by writing to the Office of Productivity and Technology, Room 2150, Bureau of Labor Statistics, Washington, DC 20212-0001. Telephone: (202) 606-5618.

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# Introduction

Public interest in productivity has grown in recent years. Increases in output per employee hour have been recognized as important indicators of economic progress and a means to higher income levels. This bulletin presents data on labor productivity trends in 178 manufacturing and nonmanufacturing industries, primarily at the 4-digit Standard Industrial Classification level. Measures for these industries are published on an annual basis. Each year new industries are added to those already published. This bulletin includes for the first time labor productivity indexes for aircraft manufacturing. An article on this industry was published in the June 1993 issue of the *Monthly Labor Review* (MLR). A new multifactor productivity measure for household furniture is also included in this bulletin. An article for this industry is forthcoming in the MLR.

Indexes of change in output per employee hour for each industry are presented in part I. These measures are not necessarily a representative cross-section of U.S. industries. The labor productivity measures describe the relationship between output in real terms and the labor time involved in production. Although these measures relate output to employment and employee hours, they do not measure the specific contributions of labor, capital, or any other factors of production. Rather, they reflect the joint effect of a number of interrelated influences, such as changes in technology, capital investment per worker, level of output, utilization of capacity, layout and flow of material, managerial skill, and skills and effort of the work force.

Part II presents indexes of multifactor productivity which represent the change in output per unit of combined labor, capital and intermediate purchases inputs. Changes in capi-

tal relative to labor and changes in intermediate purchases relative to labor influence the movements in labor productivity. Indexes of multifactor productivity are not affected by these influences since changes in capital and intermediate purchases inputs are accounted for in the combined input measure.

Part III examines labor productivity indexes for selected government functions and services. Indexes for Federal Government services, measuring output per employee year, are constructed with data collected from a sample of agencies and cover the fiscal years, 1967-92. Indexes are also presented for three State and local government services. Like labor and multifactor productivity indexes for industries, indexes of output per employee year for government functions and services reflect the joint effect of a number of interrelated influences.

The Bureau of Labor Statistics also publishes indexes of output per hour and multifactor productivity for the business sector and for the nonfarm business, manufacturing, and corporate sectors. These productivity series show the relationship between output in these sectors and labor and/or capital inputs. These data are presented in several BLS publications, including "Productivity and Costs" (quarterly news release), the *Monthly Labor Review*, and *Employment and Earnings*. More detailed information on methods, limitations, and data sources is contained in *BLS Handbook of Methods*, BLS Bulletin 2414. Reports on individual industries and tables and output indicators for Federal Government functions are available from the Bureau of Labor Statistics on request.

# Part I. Labor Productivity Trends for Selected Industries

## Current developments

The Bureau of Labor Statistics currently maintains indexes of labor productivity (measured as output divided by employee hours) for 145 distinct industries. An additional 33 measures exist at either higher levels of aggregation or, in a few cases, with two different definitions of output for one industry. For the purpose of the current and long-term trend analyses, only the 145 non-duplicated industries are discussed. (All 178 industries are included in table 1.)

The combined employment of the 145 non-duplicated industries covers almost 40 percent of the total U.S. non-farm business sector. Available data allowed 93 of the industry measures to be updated through 1992 and 143 of them to be updated through 1991.

These 143 industries exhibited a wide dispersion of productivity change in 1991, ranging from a gain of 17.2 percent for the aircraft industry to a loss of 12.8 percent for the construction machinery industry. Overall, gains in labor productivity were observed in about 55 percent of the measured industries in 1991. (In the period since 1979, the proportion of gaining industries has ranged from 79 percent in 1984 to 38 percent in 1980.) The 1991 proportion of industries with gains was almost unchanged from 1990 when 56 percent of the industries registered growth. There are, however, notable differences between the 2 years regarding the changes in output and employee hours that compose their respective productivity indexes.

In 1990, nearly 48 percent of the measured industries provided more goods and services than in the previous year. Employee hours rose in 39 percent of the measured industries, fell in 59 percent, and showed no change in 2 percent.

In 1991, less than 30 percent of the industries registered gains in output. Employee hours rose in 17 percent of the industries, fell in almost 82 percent, and showed no change in just over 1 percent. So, despite the large slip in the number of measured industries showing gains in output in 1991, the general falloff in employee hours helped maintain positive productivity growth among many industries.

Statistics from the 93 industries updated through 1992 indicate that employee hours continued to fall for many industries in that year. Nearly two-thirds of the industries with available data for measurement used fewer employee hours than in the previous year. At the same time, 74 percent showed higher levels of output. As a result, 80 percent of the measured industries in 1992 show productivity gains.

These general trends prevailed in both the manufacturing and nonmanufacturing sectors. The manufacturing sector recorded productivity gains among 57 percent of the industries in 1990 and 54 percent in 1991. Over the same time, the number showing increases in output fell from about 44 percent in 1990 to 26 percent in 1991. Employee hours rose for 31 percent of the industries in 1990 and for 16 percent in 1991. For 1992, a rise in productivity growth for the majority of the measured manufacturing industries is clearly indicated by the available data, which records productivity growth among 80 percent of the measures. Output has increased in 78 percent of them, while employee hours has risen in 34 percent.

In the trade sector, where some of the largest industries in the U.S. non-farm business economy are located, the number registering productivity gains increased from 58 percent of the measured industries in 1990 to 68 percent of them in 1991. During this time, the number recording growing output slipped from 63 percent in 1990 to 32 percent in 1991. The number showing growth in employee hours fell from almost 58 percent the former year to less than 16 percent in the latter. In 1992, productivity rose in 72 percent of the industries, as 61 percent recorded higher levels of output at the same time that 39 percent recorded gains in employee hours.

In the measured service sector, commercial banks, hotels and motels, laundry, cleaning and garment services, beauty and barber shops, and automotive repair shops experienced either declining or stagnant output in 1991. Except for the beauty and barber shops industry, all recorded declines in employee hours in 1991. All showed stronger productivity and output performances in 1992. Commercial banks and hotels and motels, both of which employ about 1.5 million people, continued to use fewer employee hours to meet the demand for their services.

The air transportation industry, which employs over 630,000 people, and the gas utilities industry, with 201,000 employees, both experienced output and productivity gains in 1992 after weaker 1991 performances.

There were several other significant industries with strong productivity rates in 1992, though not necessarily with fewer employee hours. In the manufacturing sector, labor productivity in the pulp, paper, and paperboard mills industry, which employs nearly 240,000 people, grew at a 7.3-percent rate. Steel production, with a work force of 250,000, registered a

Table 1. Selected industries: 1992 employment and annual rates of change in output per hour

SIC code	Industry	1992 Employment (thousands)	Annual percent change in output per hour	
			1990 to 1991	1991 to 1992
	<b>Mining</b>			
1011	Iron mining, crude ore	9	-2.3	0.9
1011	Iron mining, usable ore	9	-3.6	-1.3
1021	Copper mining, crude ore	15	6.5	-0.8
1021	Copper mining, recoverable metal	15	-1.4	15.9
12	Coal mining	126	3.0	9.7
122	Bituminous coal and lignite mining	117	3.4	9.7
1311	Crude petroleum and natural gas	181	1.1	4.6
14	Nonmetallic minerals, except fuels	102	-4.5	7.3
142	Crushed and broken stone	38	-10.5	5.7
	<b>Manufacturing</b>			
2011,13	Red meat products	224	1.3	n.a.
2011	Meat packing plants	135	3.8	2.9
2013	Sausages and other prepared meats	89	-2.4	n.a.
2015	Poultry dressing and processing	209	6.0	n.a.
202	Dairy products	152	2.2	5.0
2022	Cheese, natural and processed	40	5.7	n.a.
2026	Fluid milk	70	2.6	1.5
203	Preserved fruits and vegetables	246	2.3	n.a.
2033	Canned fruits and vegetables	85	4.1	n.a.
2037	Frozen fruits and vegetables	49	3.6	n.a.
204	Grain mill products	124	0.5	n.a.
2041,45	Flour (inc flour mixes) and other grains	31	2.6	n.a.
2041	Flour and other grain mill products	20	-1.1	n.a.
2043	Cereal breakfast foods	20	3.2	n.a.
2044	Rice milling	5	-5.4	n.a.
2046	Wet corn milling	10	-3.3	n.a.
2047,48	Prepared feeds for animals and fowls	59	-0.4	n.a.
2051,52	Bakery products	194	-3.5	-0.7
2061,62,63	Sugar	22	3.3	5.1
2061,62	Raw and refined cane sugar	13	7.1	-0.8
2063	Beet sugar	9	2.5	9.5
2062	Malt beverages	40	-2.1	1.3
2066	Bottled and canned soft drinks	93	6.7	6.2
2092	Prepared fresh or frozen fish and seafoods	47	-3.2	n.a.
2111,21,31	Tobacco products	41	6.4	4.7
2111,31	Cigarettes, chewing and smoking tobacco	39	5.8	3.9
2121	Cigars	2	14.8	n.a.
2211,21	Cotton and synthetic broadwoven fabrics	155	7.4	6.0
2251,52	Hosiery	69	5.4	5.6
2281	Yarn spinning mills	78	-0.2	7.4
2311	Men's and boys' suits and coats	45	-9.5	12.7
2421	Sawmills and planing mills, general	144	2.6	7.4
2431	Millwork	100	-2.1	0.0
2434	Wood kitchen cabinets	66	-1.9	n.a.
2435,36	Veneer and plywood	49	4.2	-0.9
2435	Hardwood veneer and plywood	22	2.8	n.a.
2436	Softwood veneer and plywood	27	5.7	2.5
244	Wood containers	43	1.6	n.a.
251	Household furniture	270	3.5	1.8
2511,17	Wood household furniture	126	1.5	-0.6
2512	Upholstered household furniture	87	5.0	4.6
2514	Metal household furniture	21	3.6	8.0
2515	Mattresses and bedsprings	28	6.5	3.7
252	Office furniture	62	-0.6	2.7
2521	Wood office furniture	28	3.3	n.a.
2522	Office furniture, except wood	34	-2.9	n.a.
2611,21,31	Pulp, paper, and paperboard mills	239	1.9	7.3
2653	Corrugated and solid fiber boxes	121	-0.3	1.1
2657	Folding paperboard boxes	50	-0.8	0.2
2673,74	Paper and plastic bags	56	-3.0	n.a.
281	Industrial inorganic chemicals	136	-5.4	n.a.
2812	Alkalies and chlorine	13	-8.9	n.a.
2816	Inorganic pigments	11	-5.7	n.a.

See footnotes at end of table.



Table 1. Selected industries: 1992 employment and annual rates of change in output per hour—Continued

SIC code	Industry	1992 Employment (thousands)	Annual percent change in output per hour	
			1990 to 1991	1991 to 1992
Manufacturing—Continued				
2819 (part)	Industrial inorganic chemicals, nec .....	88	-6.0	n.a.
2823,24	Synthetic fibers .....	73	2.8	6.3
2841	Soaps and detergents .....	42	0.1	n.a.
2844	Cosmetics and other toiletries .....	69	2.2	n.a.
2851	Paints and allied products .....	58	-0.3	2.7
2869	Industrial organic chemicals, nec .....	125	-6.3	-1.5
287	Agricultural chemicals .....	58	5.4	n.a.
2873	Nitrogenous fertilizers .....	11	-0.3	n.a.
2874	Phosphatic fertilizers .....	12	7.3	n.a.
2875	Fertilizers, mixing only .....	9	0.6	n.a.
2879	Agricultural chemicals, nec .....	27	8.1	n.a.
2911	Petroleum refining .....	120	-2.3	3.9
3011	Tires and inner tubes .....	82	1.4	6.3
3052	Rubber and plastics hose and belting .....	23	-8.2	n.a.
308	Miscellaneous plastics products, nec .....	619	0.7	-0.3
314	Footwear .....	64	0.2	0.9
3221	Glass containers .....	36	2.0	5.0
3241	Cement, hydraulic .....	17	-5.3	11.1
325	Structural clay products .....	31	-5.5	4.6
3251,53,59	Clay construction products .....	25	-5.6	6.6
3251	Brick and structural clay tile .....	14	-1.0	6.8
3253	Ceramic wall and floor tile .....	9	-11.9	n.a.
3255	Clay refractories .....	6	-5.8	-3.7
3271,72	Concrete products .....	80	1.6	2.2
3273	Ready-mixed concrete .....	90	-3.6	1.9
331	Steel .....	250	-3.7	9.3
3321	Gray and ductile iron foundries .....	75	-4.5	5.6
3324,25	Steel foundries .....	39	-2.6	7.5
3325	Steel foundries, nec .....	24	-0.1	9.9
3331	Primary copper .....	5	-1.9	0.0
3334	Primary aluminum .....	25	3.8	-2.6
3351	Copper rolling and drawing .....	23	2.5	6.9
3353,54,55	Aluminum rolling and drawing .....	54	-1.9	n.a.
3411	Metal cans .....	36	5.1	9.3
3423	Hand and edge tools, nec .....	34	-1.3	n.a.
3433	Heating equipment, except electric .....	19	4.2	n.a.
3441	Fabricated structural metal .....	69	2.4	n.a.
3442	Metal doors, sash, and trim .....	69	-2.3	n.a.
3452	Bolts, nuts, rivets, and washers .....	45	2.1	n.a.
3465,66,69	Metal stampings .....	180	2.2	n.a.
3465	Automotive stampings .....	96	3.4	n.a.
3469	Metal stampings, nec .....	78	1.4	n.a.
3491,92,94	Valves and pipe fittings .....	78	0.0	n.a.
3498	Fabricated pipe and fittings .....	25	6.4	n.a.
3519	Internal combustion engines, nec .....	59	-6.9	7.2
352	Farm and garden machinery .....	93	-4.3	5.5
3523	Farm machinery and equipment .....	69	-5.7	6.4
3524	Lawn and garden equipment .....	24	0.1	n.a.
3531	Construction machinery .....	73	-12.8	n.a.
3532	Mining machinery .....	16	-8.1	9.3
3533	Oil and gas field machinery .....	39	-2.7	n.a.
3541,42	Machine tools .....	53	-4.5	1.4
3541	Metal cutting machine tools .....	38	-2.3	-4.2
3542	Metal forming machine tools .....	15	-7.4	13.4
3545	Machine tool accessories .....	48	1.5	n.a.
3561,63,94	Pumps and compressors .....	84	3.2	n.a.
3561,94	Pumps and pumping equipment .....	58	-1.2	n.a.
3562	Ball and roller bearings .....	39	-3.0	11.9
3563	Air and gas compressors .....	25	2.5	n.a.
3585	Refrigeration and heating equipment .....	118	-2.7	n.a.
3592	Carburetors, pistons, rings, and valves .....	21	1.2	n.a.
3612	Transformers, except electronic .....	41	3.7	7.5
3613	Switchgear and switchboard apparatus .....	42	-2.6	n.a.
3621	Motors and generators .....	78	2.6	-0.7

See footnotes at end of table.

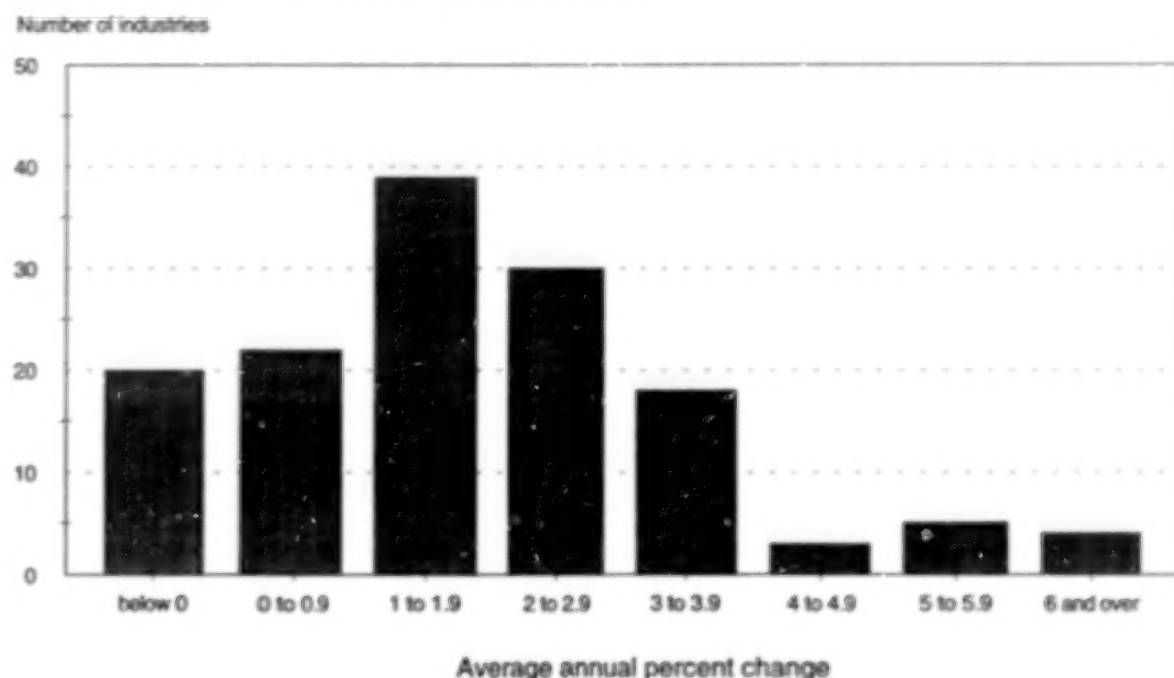
Table 1. Selected industries: 1992 employment and annual rates of change in output per hour—Continued

SIC code	Industry	1992 Employment (thousands)	Annual percent change in output per hour	
			1990 to 1991	1991 to 1992
Manufacturing—Continued				
3631,32,33,39	Major household appliances.....	76	1.9	8.0
3631	Household cooking equipment.....	17	3.1	13.6
3632	Household refrigerators and freezers.....	27	4.6	4.4
3633	Household laundry equipment.....	18	7.3	18.8
3639	Household appliances, nec.....	14	-10.5	-3.6
3641	Electric lamps.....	21	8.1	13.4
3645,46,47,48	Lighting fixtures and equipment.....	69	-2.1	0.6
3651	Household audio and video equipment.....	59	5.5	14.7
371	Motor vehicles and equipment.....	809	-5.6	8.1
3721	Aircraft.....	332	17.2	0.6
3825	Instruments to measure electricity.....	76	3.3	n.a.
3861	Photographic equipment and supplies.....	95	1.0	n.a.
Transportation				
4011	Railroad transportation, revenue traffic.....	225	8.4	5.7
4011	Railroad transportation, car miles.....	225	3.2	3.2
411,13,14 (parts)	Bus carriers, class I.....	15	n.a.	n.a.
4213	Trucking, except local <sup>1</sup> .....	461	n.a.	n.a.
4213 (part)	Trucking, ex local, general freight <sup>1</sup> .....	283	n.a.	n.a.
4512,13,22 (parts)	Air transportation <sup>1</sup> .....	631	1.6	3.5
4612,13	Petroleum pipelines.....	15	-3.4	-0.8
Utilities				
481	Telephone communications.....	886	5.0	5.0
491,2,3	Gas and electric utilities.....	797	2.0	1.4
491,3 (part)	Electric utilities.....	596	3.0	0.8
492,3 (part)	Gas utilities.....	201	-1.0	1.1
Trade <sup>2</sup>				
5093	Scrap and waste materials.....	107	8.6	n.a.
5251	Hardware stores.....	173	-7.3	7.3
5311	Department stores.....	2,046	4.1	4.3
5331	Variety stores.....	171	-1.4	-9.4
54	Food stores.....	3,392	-0.8	0.7
5411	Grocery stores.....	2,980	-0.7	0.2
546	Retail bakeries.....	183	6.0	-8.3
5511	New and used car dealers.....	876	-1.5	0.7
5531	Auto and home supply stores.....	364	0.4	-0.5
5541	Gasoline service stations.....	663	1.0	4.4
56	Apparel and accessory stores.....	1,217	0.7	6.9
5611	Men's and boys' clothing stores.....	96	0.5	2.0
5621	Women's clothing stores.....	394	3.6	8.7
5651	Family clothing stores.....	313	0.9	10.0
5661	Shoe stores.....	212	-0.8	3.5
57	Home furniture, furnishings, & equipment stores.....	935	4.1	9.0
571	Furniture and home furnishings stores.....	545	-0.3	8.4
572,3	Appliance, radio, TV, and computer stores.....	389	9.6	9.2
5722	Household appliance stores.....	87	6.1	18.6
573	Radio, television, and computer stores.....	302	9.8	6.4
581	Eating and drinking places.....	6,917	1.4	-1.4
5912	Drug stores and proprietary stores.....	624	2.8	-1.5
5921	Liquor stores.....	138	1.5	12.7
Services <sup>3</sup>				
602	Commercial banks.....	1,488	3.5	4.5
7011	Hotels and motels.....	1,552	0.9	7.1
721	Laundry, cleaning, and garment services.....	499	-2.4	0.5
7231,41	Beauty and barber shops.....	392	-4.1	5.0
7231	Beauty shops.....	379	-4.2	3.3
753	Automotive repair shops.....	834	-6.1	3.3

n.a. = not available.

<sup>1</sup> Output per employee is used for SIC 4213, SIC 4213 (part), and SIC 4512, 13, 22 (parts).<sup>2</sup> Output per hour of all persons is used for all trade and service industries except SIC 5311, SIC 5511, and SIC 602.

**Chart 1. Output per hour in 141 industries, 1973-91**



Note: Average annual percent change using compound rate formula.

9.3-percent gain. After experiencing 2 years of falling productivity, the motor vehicles industry, which employs over 800,000 people, recorded an 8.1-percent gain.

In the retail trade sector, family clothing stores, women's clothing stores, furniture stores, and radio, television and computer stores, which employ 1.5 million people combined, all had productivity growth rates of more than 5.0 percent in 1992. Family clothing stores (313,000 employees) showed an increase in labor productivity of 10 percent. The railroad transportation industry, with 225,000 employees, increased labor productivity by 5.7 percent. Telephone communications, which employs 886,000 people, increased productivity by 5.0 percent in 1992.

Long-term rates for many of these industries are discussed in the next section. Historical indexes of output per employee hour, output per employee, output, employee hours, employees, production workers and nonproduction workers for all the industries listed in table 1 can be found in the tables that follow.

#### **Long-term trends, 1973-91**

Productivity increased in 86 percent of the industries included in this bulletin over the period 1973 to 1991 (see chart 1).<sup>1</sup> Of these industries, rates of growth ranged from 0.1 percent to 8.8 percent per year. Long-term average annual rates of change in productivity and related indexes for each industry may be found beginning in table 2 of this publication.

Rates of change in productivity varied among the largest industries measured by the Bureau of Labor Statistics. For purposes of this analysis, large industries are those that employ over 200,000 persons. This definition includes 28 separate industries, encompassing all of the Bureau's measured utilities industries, and a majority of the industries in the trade, transportation, and service sectors. It also includes a number of manufacturing industries.

In fact, the largest industry measured by the Bureau, eating and drinking places, with nearly 7 million employees, is included in the trade sector. This industry registered a productivity decline of 0.2 percent over the long term. Productivity in the next largest industries, grocery stores and department stores, which are also in the trade sector, showed divergent trends. Productivity fell 0.8 percent per year in grocery stores, but it rose 2.6 percent per year in department stores. The largest remaining industries in the trade sector all recorded increases in productivity of at least 1 percent per year. Significant growth, 6.2 percent per year, occurred in radio, television, and computer stores, and gains in excess of 3.0 percent were registered in women's clothing stores and gasoline service stations.

Following grocery and department stores, the next largest

<sup>1</sup> Chart 1 includes only 141 of the 145 non-duplicated industries because two industries—Wood Containers SIC 244 and Scrap and Waste Materials SIC 5093—begin later than 1973, and two industries—Bus Carriers, Class I SIC 411,13,14 and Trucking, Except Local SIC 4213—have not been updated to 1991.

industries are in the service sector. Productivity in hotels and motels declined 0.8 percent per year, while in commercial banking productivity increased at a 1.8-percent annual rate. Commercial banks, in fact, recorded the highest long-term average annual rate of growth in productivity among the measured industries in the service sector. Improvements in productivity have resulted from the computerization of administrative, accounting and check handling functions.

With an average annual rate of growth of 5.6 percent, the telephone communications industry—the sixth largest industry measured by BLS—recorded the greatest increase in productivity in the utilities sector. Productivity gains were largely attributable to the diffusion of direct dialing and electronic operator systems. The introduction of coaxial cable and then fiber optics substantially increased the number of calls which could be transmitted. In addition, the spread of electronic switching and increased computerization reduced the need for repair and maintenance labor. Among the remaining industries in this sector, productivity advanced 1.4 percent per year in electric utilities, and fell 2.4 percent per year in gas utilities.

All of the industries measured in the transportation sector registered increases in productivity. Of these, air and railroad transportation are the largest. Productivity grew at a rate of 2.5 percent per year in the air transportation industry. In the railroad transportation industry, productivity rose 6.0 percent per year over the long term, the highest rate in the transportation sector.

Industries defined as large in the manufacturing sector, all recorded average annual increases in productivity of 1.8 percent per year or higher. They include: Motor vehicles and equipment (2.0 percent); miscellaneous plastic products, nec (1.8 percent); aircraft (2.3 percent); steel (2.3 percent); pulp, paper, and paperboard mills (2.5 percent); and poultry dressing and processing (3.9 percent).

The industries experiencing the highest rates of growth in productivity, regardless of size, also were found in the manufacturing sector. They include household audio and video equipment, and wet corn milling. In the household audio and video equipment industry, productivity advanced at an average annual rate of 8.8 percent between 1973 and 1991. In the wet corn milling industry, productivity increased at a rate of 8.0 percent per year.

Other manufacturing industries with productivity gains of more than 5.0 percent per year were: Bottled and canned soft drinks, primary copper, and malt beverages. In the manufacturing sector, productivity advanced over the period in nearly 90 percent of the measured industries.

The Bureau also maintains measures for industries in the mining sector. Of these, copper mining showed the largest rise in productivity at 5.1 percent per year, with iron and coal mining both recording average annual increases near 3.0 percent. In fact, with the exception of crude petroleum and natural gas production, all measured mining sector in-

dustries showed productivity growth over the period.

The productivity decline in the crude petroleum and natural gas industry, at 3.1 percent, was the largest of all the measured industries. Several others, however, exhibited declining productivity over the period. Declines in excess of 1 percent included: Gas utilities (2.4 percent); retail bakeries (1.8 percent); oil and gas field machinery (1.7 percent); and fabricated pipe and fittings (1.5 percent).

### New industry productivity measure

*Aircraft (SIC 3721).* Productivity, as measured by output per employee hour, advanced at an average annual rate of 3.1 percent per year from 1972 to 1992 in aircraft manufacturing. This rate of gain is larger than nearly 75 percent of the industries measured by BLS over the same period.

This relatively strong performance is tempered, however, by the fact that the long-term rate was made up of two very different periods. From 1972 to 1979, productivity rose at a 6.0-percent rate, which was better than 96 percent of the measured industries. Then after 1979, and until 1990, annual productivity growth averaged just 0.3 percent, which was higher than only 15 percent of the measured industries. In 1991, productivity shot up 17.2 percent, but in 1992 it recorded a 0.6-percent gain.

The lower rate of productivity posted in the 1979-90 period was due to the interaction of two factors. One was an unexpected and long-lasting falloff in demand during the early 1980's, in an industry that historically has experienced sudden but often short-lived swings in demand. The second is the "quasi-fixed" nature of labor in aircraft manufacturing, meaning that the industry's labor force is not easy to downsize in the short term without risking the large investments made by the firm to hire and train its employees.

When an aircraft firm hires new workers—sometimes many thousands of new workers—a significant amount of time and expense must be devoted to training them on the complex processes involved in building an aircraft. In the case of the military sector, aircraft manufacturers must also obtain security clearances for some workers. This can mean a very large investment for the firm. When a downturn of uncertain duration begins, such as the one in the early 1980's (after many aircraft companies had just increased their labor ranks and most forecasts for the future were bright), firms tend to be reluctant to reduce their work force. Though output may fall, reductions in employment and employee hours may lag, as the firm tries to protect its investment in its work force.

This relationship between employment and declines in demand may change in the future. Because of the certainty of declining demand in the near term due to defense cuts and the ailing air transportation industry, much of the former reluctance to cut employment and employee hours has been removed.



**Table 2. Iron mining, crude ore (SIC 1011): Indexes of output per hour and related measures, 1967-92**  
(1967 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1967	35.1	35.9	135.3	385.7	376.5	410.0	268.8
1968	38.1	39.0	145.1	380.6	371.8	400.5	281.5
1969	40.6	41.0	153.8	378.7	375.0	398.6	300.0
1970	40.7	41.4	158.2	388.4	382.3	406.4	306.6
1971	40.2	39.6	146.8	365.1	370.5	392.8	300.0
1972	44.0	43.5	140.5	319.2	323.3	340.6	268.8
1973	46.1	47.3	164.1	355.6	347.2	369.2	275.1
1974	44.0	46.6	163.2	371.0	350.1	375.1	268.8
1975	45.9	46.7	161.4	351.6	345.8	365.7	281.5
1976	46.3	46.9	169.0	365.1	360.2	381.4	293.9
1977	40.6	42.2	119.7	293.5	283.9	280.9	293.9
1978	47.1	49.2	175.0	371.8	355.9	376.9	287.8
1979	50.0	51.7	188.8	377.7	364.9	382.8	306.6
1980	50.9	48.8	154.9	304.6	317.7	321.3	306.6
1981	54.1	52.8	163.7	302.7	310.3	315.4	293.9
1982	41.2	40.4	78.4	190.5	194.2	178.9	243.9
1983	56.2	53.9	81.7	145.3	151.5	132.7	212.7
1984	69.7	66.6	111.8	160.4	167.8	159.6	193.9
1985	75.0	73.7	104.0	139.7	141.2	138.5	150.0
1986	79.0	78.4	83.0	105.0	105.8	103.9	112.7
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	107.4	109.3	123.7	115.2	113.2	119.2	93.7
1989	103.4	107.8	126.8	122.6	117.6	126.9	87.5
1990	94.3	99.2	122.5	129.9	123.5	128.8	106.3
1991	92.1	94.8	124.1	134.8	130.9	130.8	131.2
1992 <sup>1</sup>	92.9	95.2	124.6	134.1	130.9	128.8	137.5
Average annual percent change:							
1958-92	4.7	5.1	1.2	-3.3	-3.7	-4.0	-2.4
1973-91	3.9	3.9	-1.5	-5.2	-5.3	-5.6	-4.0

<sup>1</sup> Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of Mines, U.S. Department of the

Interior; and the Bureau of the Census. Employment and hours based on data from the Bureau of Labor Statistics supplemented with data from the Mine Safety and Health Administration, U.S. Department of Labor.

**Table 3. Iron mining, usable ore (SIC 1011): Indexes of output per hour and related measures, 1967-92**  
(1967 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1967	40.9	41.9	157.8	385.7	376.5	410.0	268.8
1968	44.0	45.1	167.6	380.6	371.8	400.5	281.5
1969	45.9	46.4	173.9	378.7	375.0	398.6	300.0
1970	46.1	46.8	179.1	388.4	382.3	406.4	306.6
1971	45.0	44.3	164.2	365.1	370.5	392.8	300.0
1972	49.1	48.4	156.6	319.2	323.3	340.6	268.8
1973	50.9	52.2	181.1	355.6	347.2	369.2	275.1
1974	47.2	50.0	175.2	371.0	350.1	375.1	268.8
1975	48.9	49.7	171.9	351.6	345.8	365.7	281.5
1976	48.1	48.8	175.7	365.1	360.2	381.4	293.9
1977	41.5	42.9	121.9	293.5	283.9	280.9	293.9
1978	48.9	51.1	181.9	371.8	355.9	376.9	287.8
1979	51.0	52.8	192.6	377.7	364.9	382.8	306.6
1980	51.2	49.1	155.9	304.6	317.7	321.3	306.6
1981	54.2	52.9	164.2	302.7	310.3	315.4	293.9
1982	40.7	40.0	77.6	190.5	194.2	178.9	243.9
1983	57.1	54.7	82.9	145.3	151.5	132.7	212.7
1984	70.2	67.1	112.6	160.4	167.8	159.6	193.9
1985	76.2	74.9	105.7	138.7	141.2	138.5	150.0
1986	79.4	78.8	83.4	105.0	105.8	103.9	112.7
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	103.6	105.5	119.4	115.2	113.2	119.2	93.7
1989	99.5	103.7	122.0	122.6	117.6	126.9	87.5
1990	90.1	94.7	117.0	129.9	123.5	128.8	106.3
1991	86.9	89.5	117.2	134.8	130.9	130.8	131.2
1992 <sup>1</sup>	85.8	87.9	115.1	134.1	130.9	128.8	137.5
Average annual percent change:							
1958-92	3.7	4.1	.3	-3.3	-3.7	-4.0	-2.4
1973-91	3.0	3.0	-2.4	-5.2	-5.3	-5.6	-4.0

<sup>1</sup> Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of Mines, U.S. Department of the

Interior; and the Bureau of the Census. Employment and hours based on data from the Bureau of Labor Statistics supplemented with data from the Mine Safety and Health Administration, U.S. Department of Labor.

**Table 4. Copper mining, crude ore (SIC 1021): Indexes of output per hour and related measures, 1967-92**  
(1967=100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1967	32.7	33.0	63.6	194.4	192.6	181.9	233.3
1968	36.5	39.9	84.9	232.4	212.9	202.9	252.0
1969	40.8	43.6	111.0	272.1	254.7	256.3	248.2
1970	44.5	45.8	127.5	286.4	278.1	279.2	274.2
1971	45.4	45.9	119.3	262.5	259.9	251.4	292.5
1972	48.1	46.0	130.4	270.9	283.4	283.9	281.7
1973	48.3	45.9	140.3	290.5	305.7	307.8	296.4
1974	45.0	42.3	140.1	311.5	331.1	329.7	337.1
1975	45.7	42.0	124.0	271.4	295.4	285.8	333.5
1976	52.0	47.5	132.2	254.0	278.1	267.8	318.8
1977	52.5	47.0	119.6	227.9	254.7	243.9	296.4
1978	57.5	53.3	121.2	210.8	227.4	218.3	263.1
1979	57.2	55.8	141.0	246.5	252.5	243.9	285.1
1980	52.1	49.6	112.8	216.3	227.4	219.0	259.3
1981	53.5	51.9	141.4	264.3	272.6	264.9	303.9
1982	55.9	50.4	92.8	166.1	184.2	169.5	241.0
1983	67.6	62.9	90.2	133.4	143.3	128.5	200.2
1984	72.6	70.0	86.5	119.1	123.6	106.5	181.7
1985	86.0	83.3	82.7	96.2	99.3	89.5	137.1
1986	101.4	97.5	85.6	84.4	87.8	84.7	100.0
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	106.3	107.8	110.3	103.8	102.3	100.0	111.1
1989	104.8	111.2	117.1	111.7	105.3	105.7	103.7
1990	100.7	106.2	123.1	122.2	115.9	118.1	107.4
1991	107.2	113.4	136.6	127.4	120.5	124.8	103.7
1992 <sup>1</sup>	106.3	109.6	126.3	118.8	115.2	118.1	103.7
Average annual percent change:							
1968-92	3.9	4.3	2.4	-1.4	-1.8	-1.8	-1.7
1973-91	4.5	5.2	-1	-4.5	-5.0	-4.9	-5.7

<sup>1</sup> Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of Mines, U.S. Department of the

Interior; and the Bureau of the Census. Employment and hours based on data from the Bureau of Labor Statistics supplemented with data from the Mine Safety and Health Administration, U.S. Department of Labor.

**Table 5. Copper mining, recoverable metal (SIC 1021): Indexes of output per hour and related measures, 1967-92**  
(1967=100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1967	34.2	34.5	66.4	194.4	192.6	181.9	233.3
1968	36.2	39.5	84.1	232.4	212.9	202.9	252.0
1969	39.8	42.5	108.3	272.1	254.7	256.3	248.2
1970	42.3	43.5	121.1	286.4	278.1	279.2	274.2
1971	41.0	41.4	107.5	262.5	259.9	251.4	292.5
1972	43.5	41.6	117.9	270.9	283.4	283.9	281.7
1973	42.4	40.3	123.3	290.5	305.7	307.8	296.4
1974	37.1	34.9	115.7	311.5	331.1	329.7	337.1
1975	38.1	35.0	103.5	271.4	295.4	285.8	333.5
1976	46.9	42.8	119.0	254.0	278.1	267.8	318.8
1977	49.5	44.2	112.7	227.9	254.7	243.9	296.4
1978	53.2	49.3	112.1	210.8	227.4	218.3	263.1
1979	48.5	47.4	119.6	246.5	252.5	243.9	285.1
1980	45.2	43.0	97.8	216.3	227.4	219.0	259.3
1981	48.3	46.8	127.6	264.3	272.6	264.9	303.9
1982	57.4	51.7	95.3	166.1	184.2	169.5	241.0
1983	64.2	59.6	85.7	133.4	143.3	128.5	200.2
1984	76.1	73.3	90.6	119.1	123.6	106.5	181.7
1985	93.6	90.6	90.0	96.2	99.3	89.5	137.1
1986	110.0	105.7	92.8	84.4	87.8	84.7	100.0
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	109.7	111.3	113.9	103.8	102.3	100.0	111.1
1989	107.8	114.3	120.4	111.7	105.3	105.7	103.7
1990	104.5	110.2	127.7	122.2	115.9	118.1	107.4
1991	103.0	108.9	131.2	127.4	120.5	124.8	103.7
1992 <sup>1</sup>	119.4	123.2	141.9	118.8	115.2	118.1	103.7
Average annual percent change:							
1968-92	3.6	4.0	2.2	-1.4	-1.8	-1.8	-1.7
1973-91	5.1	5.7	.3	-4.5	-5.0	-4.9	-5.7

<sup>1</sup> Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of Mines, U.S. Department of the

Interior; and the Bureau of the Census. Employment and hours based on data from the Bureau of Labor Statistics supplemented with data from the Mine Safety and Health Administration, U.S. Department of Labor.

**Table 6. Coal mining (SIC 12): Indexes of output per hour and related measures, 1967-92**  
(1967 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1967	75.8	73.2	62.8	82.9	85.8	91.2	61.9
1968	79.2	75.6	61.8	78.0	81.7	86.4	61.4
1969	79.7	75.6	63.2	79.3	83.6	88.4	62.2
1970	77.8	75.4	67.6	86.9	89.6	95.9	62.2
1971	71.4	68.7	61.8	86.5	89.9	93.3	75.3
1972	68.3	66.5	66.1	96.8	99.4	105.7	71.6
1973	69.2	65.7	65.7	95.0	100.0	105.6	75.3
1974	67.4	60.3	66.9	99.2	111.0	116.7	85.4
1975	57.9	54.6	71.7	123.9	131.4	137.8	103.3
1976	56.7	54.0	75.0	132.3	139.0	145.1	112.1
1977	55.0	54.8	76.3	138.8	129.2	145.2	112.5
1978	58.5	56.6	73.3	125.2	129.5	130.7	124.3
1979	54.6	53.3	85.3	156.1	159.9	163.1	145.9
1980	61.9	59.7	90.8	146.6	152.2	154.2	143.5
1981	67.2	64.9	90.0	133.9	138.7	140.4	131.4
1982	65.8	62.6	91.5	139.1	146.2	146.4	145.6
1983	75.2	71.4	85.4	113.5	119.6	117.7	127.9
1984	83.5	80.9	97.7	117.0	120.8	119.8	125.6
1985	85.2	83.2	96.4	113.2	115.8	115.7	116.4
1986	92.5	89.4	97.1	105.0	108.6	108.8	108.4
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	110.7	111.2	103.5	93.5	93.1	93.1	93.6
1989	116.6	120.3	106.7	91.5	88.7	87.8	93.2
1990	118.6	123.8	112.0	94.4	90.5	89.6	94.6
1991	122.2	129.2	108.3	88.6	83.8	83.0	86.8
1992 <sup>1</sup>	134.1	140.5	108.9	81.2	77.5	77.0	80.1
Average annual percent change:							
1958-92	3.1	4.0	2.4	-8	-1.6	-1.9	.5
1973-91	3.2	3.8	2.8	-4	-1.0	-1.3	.8

<sup>1</sup> Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Energy Information Administration, U.S.

Department of Energy, and the Bureau of Labor Statistics. Employment and hours based on data from the Bureau of Labor Statistics supplemented with data from the Mine Safety and Health Administration, U.S. Department of Labor.

**Table 7. Bituminous coal and lignite mining (SIC 122): Indexes of output per hour and related measures, 1967-92**  
(1967 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1967	75.3	73.1	60.4	80.2	82.6	87.9	59.3
1968	78.7	75.3	59.6	75.7	79.1	83.5	59.3
1969	79.4	75.4	61.2	77.1	81.2	85.8	60.5
1970	77.7	75.3	65.8	84.7	87.4	93.4	60.5
1971	71.6	66.7	60.4	84.3	87.9	91.2	73.0
1972	68.0	66.1	65.0	95.6	98.4	104.5	70.8
1973	69.0	65.4	64.7	93.8	99.0	104.4	74.5
1974	67.1	59.7	65.8	96.1	110.2	115.9	85.0
1975	57.5	54.1	70.9	123.3	131.1	137.4	102.6
1976	56.1	53.4	74.0	131.8	138.7	144.8	111.2
1977	54.6	54.3	75.5	138.3	139.0	145.0	112.0
1978	58.3	56.2	72.7	124.7	129.3	130.4	124.2
1979	54.4	53.0	84.8	155.9	160.0	163.2	145.8
1980	61.5	59.2	90.0	146.3	152.1	153.9	143.6
1981	67.0	64.6	89.4	133.4	138.4	140.0	131.3
1982	65.7	62.4	91.1	138.7	146.0	146.0	145.8
1983	74.9	71.2	85.0	113.5	119.3	117.4	127.8
1984	83.4	80.8	97.4	116.8	120.6	119.6	125.2
1985	84.8	83.0	96.0	113.2	115.6	115.8	115.9
1986	92.5	89.1	96.8	104.7	106.6	106.6	106.0
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	111.8	111.8	103.5	92.6	92.6	92.6	92.6
1989	117.2	120.3	106.8	91.1	88.8	87.9	92.9
1990	118.5	123.5	112.0	94.5	90.7	89.8	94.3
1991	122.5	129.8	108.5	88.6	83.6	83.1	86.4
1992 <sup>1</sup>	134.4	140.7	108.9	81.0	77.4	76.8	79.9
Average annual percent change:							
1958-92	3.2	4.0	2.6	-5	-1.3	-1.6	.8
1973-91	3.2	3.9	2.9	-3	-9	-1.3	.8

<sup>1</sup> Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Energy Information Administration, U.S.

Department of Energy. Employment and hours based on data from the Bureau of Labor Statistics supplemented with data from the Mine Safety and Health Administration, U.S. Department of Labor.

**Table 8. Crude petroleum and natural gas (SIC 1311): Indexes of output per hour and related measures, 1967-92**  
(1967 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1967	146.6	146.4	107.3	73.2	73.3	80.5	66.2
1968	154.1	153.9	111.6	72.4	72.5	77.8	67.4
1969	160.6	160.9	114.7	71.4	71.3	75.3	67.5
1970	169.6	169.4	120.1	70.8	70.9	74.7	67.2
1971	167.7	168.0	119.1	71.0	70.9	74.9	67.0
1972	168.8	168.8	119.0	70.5	70.1	73.2	67.1
1973	174.1	172.1	117.2	67.3	68.1	69.7	66.5
1974	161.8	157.9	111.5	68.9	70.6	71.1	70.2
1975	142.9	138.9	105.6	73.9	76.0	77.9	74.0
1976	132.0	130.8	103.2	78.2	78.9	82.9	75.2
1977	125.2	125.5	104.4	83.4	83.2	86.5	80.0
1978	120.0	120.6	107.9	89.9	89.5	89.8	89.2
1979	110.6	110.8	107.6	97.3	97.1	93.5	100.3
1980	97.5	97.5	107.5	110.2	110.3	102.5	117.4
1981	83.3	83.7	106.8	128.2	127.6	114.5	140.1
1982	78.1	78.4	104.6	134.0	133.5	124.7	141.8
1983	77.4	78.5	101.7	131.4	129.5	122.1	136.3
1984	82.0	83.1	106.0	129.2	127.6	119.2	135.6
1985	83.4	84.4	104.7	125.5	124.0	117.0	130.6
1986	90.9	92.7	101.6	111.3	109.6	107.1	112.1
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	100.8	101.1	99.6	98.8	98.5	99.5	97.4
1989	97.7	99.3	96.0	98.3	96.7	96.1	97.2
1990	96.9	99.0	95.3	98.3	96.3	96.4	96.2
1991	98.0	99.3	95.7	97.7	96.4	99.3	93.6
1992 <sup>1</sup>	102.5	103.2	93.6	91.3	90.7	94.5	87.1
Average annual percent change:							
1959-92	.4	.4	.4	.0	.0	-.7	.9
1973-91	-3.1	1.0	-1.1	2.1	1.9	2.0	1.9

<sup>1</sup> Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Energy Information Administration, U.S. Department of Energy; the Bureau of the Census; and the Bureau of Labor Statistics. Employment and hours based on data from the Bureau of Labor Statistics.

**Table 9. Nonmetallic minerals, except fuels (SIC 14): Indexes of output per hour and related measures, 1967-92**  
(1967 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1967	68.2	68.8	74.8	109.7	106.7	116.1	84.3
1968	74.2	74.2	78.4	105.6	105.6	112.6	82.4
1969	76.1	77.4	80.9	106.3	104.5	111.6	80.7
1970	78.7	78.3	81.6	103.7	104.2	110.8	82.4
1971	78.1	78.1	81.5	104.4	104.3	109.8	86.1
1972	81.1	80.5	85.0	104.8	105.6	110.5	89.3
1973	85.3	86.6	93.4	109.5	107.8	112.6	91.7
1974	82.0	82.7	91.5	111.6	110.7	115.4	94.9
1975	79.4	77.8	82.5	103.9	106.0	109.0	95.9
1976	84.3	83.0	86.4	102.5	104.1	107.1	94.9
1977	87.6	87.1	91.7	104.7	105.3	108.7	94.9
1978	91.9	91.7	96.7	107.4	107.6	111.3	97.6
1979	90.1	90.3	101.6	112.8	112.5	116.3	100.0
1980	84.6	82.5	92.0	108.7	111.5	113.7	105.0
1981	83.1	79.8	85.9	103.4	107.7	107.6	109.0
1982	78.3	74.7	74.5	95.1	99.7	98.3	104.3
1983	86.3	83.6	79.3	91.9	94.8	93.3	99.6
1984	92.2	91.5	90.2	97.8	96.6	97.8	101.0
1985	93.9	92.8	92.9	98.9	100.1	99.0	103.3
1986	94.5	93.3	92.9	98.3	99.6	98.7	102.7
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	102.2	102.7	104.3	102.1	101.6	101.1	103.5
1989	102.0	102.5	103.6	101.6	101.1	100.2	103.9
1990	108.3	107.9	108.2	99.9	100.3	98.7	105.5
1991	103.4	101.2	96.1	92.9	95.0	92.3	103.9
1992 <sup>1</sup>	110.9	109.1	100.7	90.8	92.3	89.6	101.2
Average annual percent change:							
1958-92	2.2	2.3	1.9	-.3	-.4	-.7	1.0
1973-91	1.1	.9	.2	-.9	-.7	-1.1	.7

<sup>1</sup> Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of Mines, U.S. Department of the

Interior; the Bureau of the Census; and the Bureau of Labor Statistics. Employment and hours based on data from the Bureau of Labor Statistics supplemented with data from the Mine Safety and Health Administration, U.S. Department of Labor.



**Table 10. Crushed and broken stone (SIC 142): Indexes of output per hour and related measures, 1967-92**  
(1967=100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1967	62.5	62.9	63.5	101.6	100.9	106.7	78.0
1968	67.9	68.0	67.7	99.7	99.6	105.6	76.7
1969	68.4	70.5	70.7	101.8	100.3	106.7	75.6
1970	70.1	69.3	71.4	101.8	103.0	107.7	84.1
1971	68.5	68.1	72.3	105.6	106.1	108.9	91.4
1972	72.2	70.6	76.2	105.6	108.0	113.1	87.7
1973	79.4	79.9	87.6	110.3	109.7	114.6	90.2
1974	77.7	77.8	86.9	111.8	111.7	115.9	95.1
1975	77.4	73.8	76.3	98.6	103.4	106.4	91.4
1976	79.1	76.3	76.0	96.1	99.6	103.2	85.3
1977	84.6	81.8	81.0	95.8	99.0	103.6	81.7
1978	91.4	89.8	88.7	97.0	96.6	104.3	78.0
1979	90.4	89.7	93.0	102.9	103.7	106.7	80.4
1980	85.6	82.2	82.3	96.2	100.1	104.9	81.7
1981	81.7	79.3	72.0	88.1	94.0	96.3	85.3
1982	79.6	74.7	65.1	81.8	87.2	87.0	87.8
1983	87.4	83.2	70.9	81.1	85.2	84.2	89.0
1984	88.8	87.0	77.9	87.7	89.5	89.6	89.0
1985	87.3	86.1	82.0	93.9	95.2	96.9	89.0
1986	87.5	86.4	83.7	95.7	96.9	98.2	92.7
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	101.1	100.9	103.4	102.3	102.5	101.3	107.3
1989	96.3	97.9	101.3	103.1	103.5	102.5	107.3
1990	110.4	106.4	111.1	100.6	102.5	99.7	113.4
1991	96.8	94.2	91.1	92.2	96.7	82.4	113.4
1992 <sup>1</sup>	104.4	100.5	95.0	91.0	94.5	91.1	107.3
Average annual percent change:							
1968-92	2.5	2.5	2.3	-2	-2	-5	1.1
1973-91	1.2	.9	.2	-1.0	-7	-1.2	1.3

<sup>1</sup> Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of Mines, U.S. Department of the

Interior; the Bureau of the Census; and the Bureau of Labor Statistics. Employment and hours based on data from the Bureau of Labor Statistics supplemented with data from the Mine Safety and Health Administration, U.S. Department of Labor.

**Table 11. Red meat products (SIC 2011, 2013): Indexes of output per hour and related measures, 1967-91**  
(1967=100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1967	61.3	62.3	67.3	109.8	106.1	103.8	124.6
1968	62.7	62.6	68.0	106.4	106.6	104.7	123.3
1969	62.1	62.1	67.1	106.1	106.1	104.2	123.1
1970	63.3	63.7	68.9	106.8	106.1	105.6	117.9
1971	65.0	65.8	72.0	110.7	109.5	108.8	112.1
1972	69.7	69.6	74.7	107.2	107.3	106.9	106.9
1973	67.8	67.3	68.8	101.5	102.3	100.7	106.4
1974	69.3	69.9	75.0	106.2	107.3	105.6	114.0
1975	69.1	69.0	72.4	104.7	105.0	102.9	113.2
1976	76.5	76.8	81.6	106.7	106.2	104.1	114.0
1977	81.9	81.6	88.0	107.4	107.9	106.4	113.6
1978	80.9	80.1	85.4	105.5	106.6	105.5	111.0
1979	83.3	83.1	86.1	103.4	103.6	103.0	106.0
1980	87.6	86.6	89.1	101.7	102.9	102.8	103.5
1981	88.5	87.6	86.4	99.9	100.9	101.3	99.4
1982	91.9	90.7	88.6	96.4	97.7	97.8	97.2
1983	95.5	94.6	91.1	95.4	96.3	95.9	97.8
1984	97.0	95.5	92.7	95.6	97.1	97.4	95.7
1985	99.7	98.6	94.6	94.9	95.9	96.2	94.6
1986	98.4	96.9	92.8	94.3	95.8	96.7	92.2
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	102.7	102.7	105.2	102.4	102.4	102.4	102.3
1989	94.8	94.8	96.5	103.9	103.9	103.9	103.7
1990	92.3	92.3	96.3	104.3	104.3	105.1	101.2
1991	93.5	93.3	96.9	103.6	103.9	105.6	96.3
Average annual percent change:							
1967-91	1.8	1.7	1.5	-2	-2	.1	-1.1
1973-91	1.6	1.8	1.9	.1	.1	.3	-7

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census, the Bureau of Labor Statistics, and the U.S. Department of Agriculture.

**Table 12. Meat packing plants (SIC 2011): Indexes of output per hour and related measures, 1967-92**  
(1967 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1967	55.6	56.2	77.9	140.1	138.5	126.4	190.5
1968	57.4	57.4	78.8	137.2	137.4	127.7	187.3
1969	57.7	57.6	78.5	136.1	136.3	126.8	185.0
1970	58.5	60.0	80.6	135.5	134.3	127.1	171.8
1971	60.2	61.3	82.3	136.7	134.2	129.8	156.8
1972	65.7	65.8	84.4	128.4	128.3	124.8	148.4
1973	66.9	66.4	79.6	118.9	119.8	115.3	142.7
1974	66.4	67.0	85.4	128.6	127.4	122.9	150.5
1975	66.9	66.4	82.7	123.6	124.5	120.0	147.7
1976	73.6	73.7	93.2	126.6	126.4	121.5	151.4
1977	75.6	75.4	95.8	126.8	127.1	122.2	152.3
1978	76.3	75.6	94.1	123.4	124.4	119.7	148.2
1979	79.0	78.9	95.0	120.2	120.4	116.6	139.5
1980	82.2	81.6	97.0	118.0	119.9	116.1	133.2
1981	86.0	85.4	96.1	114.1	114.9	112.6	126.4
1982	90.2	89.4	97.5	108.1	109.0	106.9	120.0
1983	94.1	93.3	99.0	105.2	106.1	103.2	121.4
1984	96.7	95.0	101.7	105.2	107.0	105.5	114.5
1985	101.1	99.9	103.7	102.6	103.8	103.0	108.2
1986	99.2	97.5	99.4	100.2	101.9	101.9	101.8
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	100.6	100.4	103.1	102.5	102.7	102.8	102.3
1989	91.5	91.0	93.0	101.6	102.2	102.3	101.8
1990	91.1	90.2	91.3	100.2	101.2	101.9	97.3
1991	94.6	93.3	93.7	99.1	100.4	102.3	90.9
1992 <sup>1</sup>	97.3	96.9	97.1	99.8	100.2	100.7	97.7
Average annual percent change:							
1967-92	2.3	2.2	.9	-1.3	-1.3	-1.0	-2.6
1973-91	1.9	1.9	.9	-1.0	-1.0	-.7	-2.5

<sup>1</sup> Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census, the Bureau of Labor Statistics, and the U.S. Department of Agriculture.

**Table 13. Sausages and other prepared meats (SIC 2013): Indexes of output per hour and related measures, 1967-91**  
(1967 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1967	77.6	78.4	48.6	62.6	62.0	60.9	65.0
1968	77.5	75.9	49.2	63.5	64.8	64.6	65.4
1969	72.4	71.4	46.7	64.5	65.4	64.8	67.1
1970	71.6	70.4	48.1	67.2	68.3	68.0	69.1
1971	77.4	75.5	54.3	70.2	71.9	72.0	71.6
1972	78.7	77.8	58.6	74.5	75.3	75.4	74.9
1973	67.9	66.7	50.5	74.4	75.7	75.1	77.4
1974	75.2	74.6	57.4	76.3	76.9	75.3	81.1
1975	73.3	72.8	55.0	75.0	75.5	73.1	81.9
1976	82.5	82.5	62.3	75.5	75.5	73.7	80.2
1977	96.2	96.2	75.7	77.1	78.7	78.7	78.6
1978	92.0	89.5	71.3	77.5	78.7	80.5	77.4
1979	93.1	91.7	71.7	77.0	78.2	79.1	75.7
1980	100.4	97.5	76.8	76.5	78.8	79.6	76.5
1981	93.2	90.8	72.4	77.7	79.7	81.5	74.9
1982	94.9	92.2	74.1	78.1	80.4	81.9	76.5
1983	97.9	96.2	78.2	79.9	81.3	83.2	76.5
1984	97.3	95.2	78.1	80.3	82.0	83.3	78.6
1985	96.3	95.2	79.7	82.8	83.7	84.2	82.3
1986	96.2	94.7	82.0	85.2	86.6	87.8	83.5
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	105.7	106.4	106.4	102.6	101.9	101.7	102.4
1989	99.2	100.4	107.1	108.0	106.7	107.0	105.7
1990	93.2	94.9	104.0	111.6	109.6	111.1	105.2
1991	91.0	92.7	101.8	111.9	109.8	112.6	101.9
Average annual percent change:							
1967-91	.7	.7	3.1	2.4	2.4	2.6	1.9
1973-91	1.6	1.8	4.0	2.3	2.1	2.3	1.5

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census, the Bureau of Labor Statistics, and the U.S. Department of Agriculture.

**Table 14. Poultry dressing and processing plants (SIC 2015): Indexes of output per hour and related measures, 1967-91**  
(1967 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1967	59.3	59.4	34.3	57.8	57.7	59.0	46.3
1968	57.2	56.7	33.6	56.7	59.3	60.3	50.6
1969	56.5	56.8	35.4	62.7	62.3	63.5	51.9
1970	57.6	58.5	36.8	63.9	62.9	64.2	52.5
1971	62.8	62.0	37.8	60.2	61.0	62.0	53.1
1972	64.9	66.0	41.2	63.7	62.4	63.7	52.5
1973	56.9	57.0	37.1	65.1	65.1	66.4	54.3
1974	64.3	64.2	41.7	64.5	65.0	65.1	63.6
1975	64.6	63.0	39.3	60.8	62.4	62.1	64.9
1976	72.6	70.9	46.6	64.2	65.7	64.9	72.2
1977	73.5	71.0	47.1	64.1	66.3	66.5	64.2
1978	74.7	72.6	50.3	67.3	69.3	70.4	59.3
1979	78.1	76.7	56.4	72.2	71.5	74.2	68.5
1980	77.8	75.5	60.2	77.4	79.7	80.2	75.3
1981	85.5	82.0	66.4	77.7	81.0	82.7	66.6
1982	92.4	90.6	72.2	78.1	79.7	80.8	71.6
1983	96.9	95.5	75.1	77.5	78.6	79.4	72.8
1984	96.1	95.0	72.1	75.0	75.9	76.4	72.2
1985	98.2	97.2	76.7	78.1	78.9	79.9	70.9
1986	93.9	91.9	80.7	85.9	87.8	87.8	88.3
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	95.3	98.7	103.6	108.7	105.0	104.8	106.8
1989	100.1	104.6	115.6	115.5	110.5	110.5	109.9
1990	106.1	107.6	124.8	117.6	116.0	115.5	120.5
1991	112.5	112.8	133.8	118.9	118.6	117.5	129.8
Average annual percent change:							
1963-91	2.7	2.7	6.2	3.4	3.3	3.2	4.4
1973-91	3.9	3.9	7.4	3.4	3.4	3.2	5.0

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

**Table 15. Dairy products (SIC 202): Indexes of output per hour and related measures, 1967-92**  
(1967 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1967	43.9	44.3	74.4	169.5	167.9	127.3	231.5
1968	47.7	46.1	74.3	155.9	161.0	124.3	218.7
1969	49.6	48.2	74.7	150.7	155.0	119.8	210.2
1970	51.1	50.0	74.9	146.5	149.9	116.9	201.7
1971	55.2	54.3	77.6	140.7	143.0	113.4	189.4
1972	59.1	59.0	79.6	134.7	134.9	110.8	172.7
1973	60.8	60.9	78.5	129.2	129.0	107.3	163.1
1974	63.3	63.5	79.2	125.1	124.7	104.7	156.1
1975	66.3	66.6	80.3	121.1	120.5	101.2	151.0
1976	68.5	68.7	81.6	119.1	118.8	100.8	146.9
1977	69.1	69.9	81.6	118.1	118.6	100.3	142.6
1978	72.1	72.1	82.3	114.1	114.2	98.9	138.2
1979	74.2	73.9	82.8	111.6	112.0	98.8	132.8
1980	77.4	77.6	84.4	109.0	108.8	98.2	125.8
1981	81.9	81.5	86.1	105.1	105.7	95.8	121.3
1982	84.9	84.4	87.4	102.9	103.6	95.7	116.1
1983	89.2	88.8	90.9	101.9	102.4	96.3	112.0
1984	91.0	90.5	92.0	101.1	101.7	97.0	108.9
1985	93.3	93.6	94.5	101.3	101.0	98.2	105.8
1986	96.6	96.5	97.4	100.8	100.9	99.3	103.5
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	104.2	103.8	102.2	98.1	98.5	97.8	99.7
1989	102.9	102.5	100.2	97.4	97.8	97.9	97.6
1990	104.5	104.3	100.9	96.6	96.7	97.2	95.8
1991	106.8	106.7	103.2	96.6	96.7	97.7	95.0
1992 <sup>1</sup>	112.1	113.1	107.2	95.6	94.8	96.9	91.8
Average annual percent change:							
1967-92	3.8	3.8	1.5	-2.3	-2.3	-1.1	-3.6
1973-91	3.2	3.2	1.5	-1.6	-1.6	-1.5	-3.0

<sup>1</sup> Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of the Census; the Bureau of Labor Statistics; and the National Agricultural Statistics Service, U.S. Department of Agriculture. Employment and hours based on data from the Bureau of Labor Statistics.

**Table 16. Cheese, natural and processed (SIC 2022): Indexes of output per hour and related measures, 1972-91**  
(1987 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1972	68.8	71.1	47.4	67.9	66.7	70.0	55.4
1973	70.7	72.2	48.9	69.2	67.7	70.9	56.4
1974	77.0	75.3	54.8	71.2	69.1	71.3	61.7
1975	79.1	82.0	56.3	71.2	68.7	69.7	64.9
1976	79.3	81.6	60.4	76.2	74.0	74.8	71.3
1977	75.0	77.5	58.8	78.4	75.9	76.7	73.5
1978	74.2	75.0	59.2	79.8	78.9	79.4	76.6
1979	74.8	75.1	62.2	83.2	82.8	83.6	79.8
1980	78.7	79.1	68.9	87.5	87.1	87.1	87.3
1981	88.2	88.2	76.8	87.1	87.1	86.1	90.4
1982	90.3	90.2	80.1	88.7	88.8	86.7	95.8
1983	86.8	86.3	80.4	92.6	93.2	92.1	96.8
1984	84.1	84.3	79.3	94.3	94.1	92.7	98.9
1985	87.0	87.3	83.5	96.0	95.6	95.8	104.7
1986	93.3	93.1	90.9	97.4	97.6	96.5	101.1
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	98.9	98.7	100.7	101.8	102.0	100.8	106.4
1989	97.7	97.7	99.7	102.0	102.0	101.2	104.3
1990	105.0	105.3	106.0	101.0	100.7	100.6	101.1
1991	111.0	111.9	112.2	101.1	100.3	100.6	98.9
Average annual percent change:							
1972-91	2.5	2.4	4.6	2.1	2.2	1.9	3.1
1973-91	2.5	2.5	4.7	2.1	2.2	2.0	3.2

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of the Census and the Bureau of Labor Statistics. Employment and hours based on data from the Bureau of Labor Statistics.

**Table 17. Fluid milk (SIC 2026): Indexes of output per hour and related measures, 1967-92**  
(1987 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees
Index:					
1967	37.9	37.8	91.4	241.0	241.6
1968	40.0	39.2	91.0	227.3	232.4
1969	41.9	40.9	91.3	217.8	223.1
1970	44.4	43.4	92.5	208.1	213.0
1971	47.9	47.1	94.3	198.8	200.4
1972	51.4	50.9	95.9	186.7	188.4
1973	53.4	53.1	93.7	175.5	176.3
1974	54.8	54.6	91.6	167.1	167.9
1975	57.5	57.3	92.6	161.0	161.5
1976	60.2	59.8	93.9	156.1	157.0
1977	60.3	60.8	93.2	154.6	153.2
1978	65.0	64.7	94.7	145.6	146.3
1979	69.7	69.1	94.6	135.7	136.9
1980	74.7	74.2	94.7	126.8	127.7
1981	77.2	76.1	92.8	120.2	122.0
1982	81.6	80.5	94.3	115.5	117.2
1983	86.1	85.1	95.7	111.2	112.4
1984	89.4	88.5	97.5	109.0	110.2
1985	92.2	92.0	99.5	107.9	108.1
1986	96.4	96.1	100.5	104.3	104.6
1987	100.0	100.0	100.0	100.0	100.0
1988	104.0	103.1	99.5	95.7	96.5
1989	106.8	105.9	100.2	93.8	94.6
1990	108.0	106.9	99.4	92.0	93.0
1991	110.8	109.7	100.2	90.4	91.3
1992 <sup>1</sup>	112.5	112.6	100.2	89.1	89.0
Average annual percent change:					
1967-92	4.0	4.0	.5	-3.4	-3.4
1973-91	4.1	4.1	.4	-3.6	-3.6

<sup>1</sup> Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Economic Research Service, U.S. Department of Agriculture, and the Bureau of the Census. Employment and hours based on data from the Bureau of Labor Statistics.



**Table 18. Preserved fruits and vegetables (SIC 203): Indexes of output per hour and related measures, 1967-91**  
(1967 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1967	61.3	62.9	63.7	103.9	101.3	106.6	76.0
1968	62.8	62.5	65.2	103.8	104.3	109.4	80.4
1969	63.9	64.2	67.7	105.9	105.5	110.5	82.0
1970	66.1	66.1	67.8	102.5	102.5	106.2	84.8
1971	69.0	69.8	72.0	104.3	103.1	106.5	87.6
1972	70.3	71.1	75.9	108.0	106.8	110.6	89.2
1973	77.3	78.1	83.6	108.1	107.1	110.0	93.7
1974	78.2	77.0	80.9	106.2	105.0	109.3	84.9
1975	77.8	77.9	79.1	101.7	101.6	105.7	82.0
1976	83.2	81.9	83.0	99.8	101.3	105.3	82.8
1977	83.1	83.2	89.4	107.6	107.4	110.1	95.0
1978	86.5	86.0	95.3	110.2	110.8	114.5	94.4
1979	82.2	82.4	92.0	111.9	111.7	114.4	99.7
1980	83.7	85.2	91.2	108.9	107.1	108.3	101.7
1981	82.4	83.5	86.9	105.5	104.1	105.9	96.5
1982	89.6	89.1	89.6	100.0	100.6	101.1	98.1
1983	92.1	92.3	90.8	98.4	98.2	98.3	97.8
1984	93.4	93.7	94.0	100.6	100.3	101.2	96.1
1985	94.6	93.0	94.1	99.5	101.2	101.5	100.0
1986	98.6	95.9	97.0	98.4	101.1	101.0	101.4
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	98.7	99.1	101.0	102.3	101.9	101.0	105.9
1989	97.9	100.0	105.0	107.2	105.0	104.8	105.6
1990	97.7	101.0	107.5	110.0	106.4	107.6	101.0
1991	99.9	103.1	111.6	111.7	108.2	109.9	100.0
Average annual percent change:							
1947-91	2.5	2.5	3.0	.5	.5	.4	1.8
1973-91	1.4	1.6	1.6	.2	.1	.0	.4

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the National Canners Association; U.S. Department of Agriculture; the Bureau of Labor Statistics; the Bureau of Competitive

Assessment and Business Policy; the National Oceanic and Atmospheric Administration; and the Bureau of the Census. Employment and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

**Table 19. Canned fruits and vegetables (SIC 2033): Indexes of output per hour and related measures, 1967-91**  
(1967 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1967	52.9	54.8	84.3	159.5	153.7	160.2	116.6
1968	52.7	52.3	83.6	158.6	159.8	166.6	119.8
1969	55.0	55.1	86.0	156.4	156.0	162.9	115.6
1970	56.1	55.4	82.0	146.1	148.0	153.1	118.8
1971	57.8	58.3	84.4	146.0	144.7	149.6	117.8
1972	62.1	61.9	85.3	137.4	137.9	141.9	114.6
1973	69.2	69.2	94.3	136.2	136.2	140.4	110.3
1974	68.4	68.9	90.4	132.1	131.2	138.6	88.6
1975	67.7	68.1	87.5	129.3	129.5	135.0	90.6
1976	75.1	72.1	91.0	121.2	126.2	132.2	92.8
1977	73.4	72.8	92.4	125.9	127.0	131.0	104.2
1978	76.3	74.0	94.1	123.3	127.1	131.8	100.0
1979	74.9	75.7	96.0	126.1	126.8	126.7	114.6
1980	74.5	75.0	91.9	123.3	122.5	123.2	119.8
1981	74.0	73.2	88.1	119.1	120.3	122.9	104.2
1982	79.7	79.5	86.1	108.0	108.3	109.4	102.0
1983	84.0	83.5	83.7	99.7	100.2	100.2	100.0
1984	85.7	85.2	90.5	105.6	106.2	105.5	109.4
1985	91.0	89.4	92.9	102.1	103.9	103.3	107.2
1986	96.3	93.6	97.1	98.8	103.7	103.5	104.2
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	98.3	99.3	101.7	103.5	102.4	101.9	104.4
1989	91.9	95.1	103.0	112.1	108.3	109.7	101.5
1990	94.3	98.5	108.5	115.1	110.1	113.1	94.8
1991	96.2	101.8	112.8	114.9	110.8	113.6	97.0
Average annual percent change:							
1958-91	2.8	2.9	1.6	-1.1	-1.2	-1.3	-.9
1973-91	2.0	2.2	1.0	-.9	-1.1	-1.2	-.7

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

**Table 20. Frozen fruits and vegetables (SIC 2037): Indexes of output per hour and related measures, 1972-91**  
(1967 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1972	77.1	82.7	71.1	92.2	86.0	87.9	74.1
1973	80.5	85.8	75.9	94.3	88.5	89.5	82.8
1974	83.0	87.5	77.9	93.8	89.0	91.2	75.6
1975	88.5	88.4	76.0	85.9	86.0	88.1	72.8
1976	93.4	96.4	77.9	83.4	80.8	82.3	72.8
1977	96.9	89.3	83.9	96.6	94.0	97.0	75.6
1978	95.5	102.0	95.1	99.6	93.2	96.3	74.1
1979	96.8	86.7	90.3	104.0	104.2	106.8	88.6
1980	87.9	94.4	91.1	103.6	96.5	96.3	97.2
1981	96.5	92.5	90.7	104.9	98.1	99.8	87.2
1982	98.1	99.3	95.1	96.9	95.8	97.0	88.6
1983	99.4	98.6	93.7	94.3	95.0	95.6	91.4
1984	100.1	101.2	95.3	95.2	94.2	96.3	81.4
1985	96.2	95.8	88.6	92.1	92.5	94.0	84.2
1986	101.9	98.5	91.8	90.1	93.2	93.7	90.0
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	97.9	98.2	99.8	101.9	101.6	101.2	105.0
1989	98.2	100.2	103.3	105.2	103.1	103.5	100.0
1990	94.7	97.7	101.1	106.8	103.5	102.6	110.0
1991	98.1	101.1	104.1	106.1	103.1	102.3	108.3
Average annual percent change:							
1972-91	1.3	1.1	2.0	.7	1.0	.8	2.0
1973-91	1.1	.9	1.8	.7	.9	.7	1.5

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

**Table 21. Grain mill products (SIC 204): Indexes of output per hour and related measures, 1967-91**  
(1967 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1967	48.8	49.2	55.4	113.5	112.7	115.1	107.0
1968	51.5	51.2	56.7	110.1	110.7	113.1	105.5
1969	52.4	52.5	59.3	113.1	113.0	115.1	108.4
1970	53.3	52.9	60.1	112.7	113.7	117.2	106.7
1971	55.8	55.1	59.8	107.2	108.5	112.8	99.7
1972	57.2	58.0	65.0	113.7	112.1	115.6	104.1
1973	54.7	57.0	63.3	115.7	111.0	115.1	102.6
1974	57.8	57.8	66.3	114.7	114.7	118.7	105.8
1975	58.4	58.7	67.4	115.5	114.8	119.3	105.3
1976	60.9	61.1	70.5	115.7	115.4	118.4	108.1
1977	67.0	66.2	75.2	112.3	113.6	117.2	106.1
1978	67.0	66.1	77.3	115.3	116.9	119.7	110.6
1979	67.5	67.4	77.5	114.8	115.0	119.4	105.8
1980	70.4	69.8	80.1	113.7	114.7	118.3	107.0
1981	74.2	74.6	82.2	110.8	110.2	112.3	105.0
1982	80.9	78.9	85.4	105.5	108.2	110.1	104.1
1983	83.7	81.9	87.4	104.4	106.7	108.4	103.0
1984	88.6	86.2	89.0	100.5	103.2	104.0	101.9
1985	93.8	91.4	91.5	97.6	100.1	99.8	100.8
1986	94.5	93.4	91.3	96.6	97.7	97.0	99.4
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	100.0	101.1	101.1	101.1	100.0	100.9	98.1
1989	99.6	101.5	101.9	102.1	100.4	99.7	101.9
1990	104.1	105.9	106.2	102.0	100.3	100.4	100.0
1991	104.6	106.0	106.3	101.6	100.3	100.9	99.1
Average annual percent change:							
1967-91	3.4	3.4	2.9	-.5	-.5	-.5	-.4
1973-91	3.7	3.5	2.9	-.7	-.6	-.7	-.2

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of the Census, Agricultural Marketing

Service, U.S. Department of Agriculture, the Rice Millers' Association, and the Bureau of Labor Statistics. Employment and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

**Table 22. Flour (including flour mixes) and other grains (SIC 2041, 2045): indexes of output per hour and related measures, 1967-91**  
(1987 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1967	61.2	62.3	79.4	129.7	127.5	128.8	123.8
1968	63.7	64.6	79.9	125.4	123.7	125.7	119.1
1969	63.1	63.9	80.5	127.5	126.0	127.4	122.3
1970	66.0	66.3	79.0	119.7	119.2	119.8	117.4
1971	67.7	68.1	75.3	111.2	110.6	113.7	102.9
1972	67.7	70.1	76.5	113.0	109.2	111.7	102.9
1973	68.0	71.0	81.1	119.3	114.2	118.7	102.9
1974	73.4	73.6	84.3	114.9	114.6	119.3	102.9
1975	72.1	72.3	85.2	118.1	117.8	119.8	112.6
1976	72.8	73.4	85.8	117.9	116.9	114.8	122.3
1977	78.4	78.6	85.8	109.5	109.2	108.4	111.1
1978	76.8	77.7	85.2	110.9	109.7	110.5	107.9
1979	74.6	77.6	84.4	113.2	108.8	108.9	106.2
1980	77.1	78.2	84.0	109.0	107.4	108.0	102.9
1981	77.7	79.7	84.9	109.3	106.5	107.9	102.9
1982	89.0	85.6	85.3	96.9	99.6	102.8	91.7
1983	91.2	91.2	90.8	99.6	99.6	100.5	97.2
1984	94.1	92.7	89.0	94.6	96.0	96.4	90.4
1985	94.9	93.2	88.8	93.6	95.3	96.1	90.0
1986	96.9	95.1	92.1	95.0	96.8	97.7	94.5
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	102.9	104.5	103.7	100.8	99.2	99.4	98.6
1989	101.8	104.1	101.2	99.4	97.2	96.1	100.0
1990	108.0	109.8	105.1	97.3	95.7	96.7	93.2
1991	110.8	112.6	108.7	98.1	96.5	97.2	94.5
Average annual percent change:							
1963-91	2.8	2.7	1.5	-1.3	-1.2	-1.2	-1.1
1973-91	2.7	2.6	1.6	-1.1	-0.9	-1.1	-0.5

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

**Table 23. Flour and other grain mill products (SIC 2041): indexes of output per hour and related measures, 1967-91**  
(1987 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1967	55.3	56.6	87.1	157.4	154.0	149.4	167.6
1968	58.5	59.3	88.3	150.9	148.8	145.5	158.9
1969	57.3	57.8	87.0	151.8	150.4	146.5	161.9
1970	60.2	60.9	87.0	144.6	142.8	138.4	156.0
1971	60.9	61.6	83.3	136.8	135.3	133.4	141.3
1972	63.3	65.5	79.2	125.1	121.0	120.2	123.6
1973	63.2	64.8	82.8	131.1	127.7	128.2	126.7
1974	66.3	66.3	86.8	131.0	130.9	131.2	129.6
1975	67.3	66.9	88.9	132.0	132.9	130.3	141.3
1976	66.7	66.2	87.1	130.5	131.6	126.3	147.1
1977	78.6	78.4	92.0	117.1	117.3	114.2	126.7
1978	79.2	80.1	90.9	114.8	113.5	112.1	117.6
1979	76.3	78.4	90.2	118.2	115.0	113.1	120.6
1980	74.3	76.8	89.6	120.6	116.6	114.2	123.6
1981	75.8	78.1	92.7	122.3	118.7	117.3	123.6
1982	81.5	80.4	91.2	111.9	113.5	115.2	106.8
1983	85.8	87.2	96.4	112.4	110.6	110.1	111.9
1984	88.4	88.2	92.2	104.3	104.5	104.1	105.9
1985	93.6	92.9	92.9	99.2	100.0	99.1	102.9
1986	95.4	95.0	96.4	101.0	101.5	100.0	105.9
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	103.2	105.3	101.3	98.2	96.2	97.0	94.1
1989	102.8	104.6	96.8	94.2	92.5	90.9	97.1
1990	108.5	109.3	101.1	93.2	92.5	91.9	94.1
1991	107.3	109.3	101.9	95.0	93.2	92.9	94.1
Average annual percent change:							
1947-91	3.0	2.8	.2	-2.8	-2.6	-2.7	-2.3
1973-91	3.0	2.9	1.2	-1.8	-1.7	-1.8	-1.6

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

**Table 24. Cereal breakfast foods (SIC 2043): indexes of output per hour and related measures, 1967-91**  
(1967=100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1967	61.7	57.6	43.9	71.2	76.2	77.1	72.4
1968	64.0	60.7	43.2	67.5	71.2	71.0	72.4
1969	63.1	60.6	43.5	68.9	71.8	71.8	72.4
1970	65.4	61.7	46.3	70.8	75.0	75.6	72.4
1971	65.5	62.5	48.9	74.7	78.2	78.8	76.0
1972	66.5	65.6	52.8	76.0	80.5	81.6	76.0
1973	66.7	66.3	55.9	81.4	81.9	84.1	72.4
1974	65.3	63.7	55.2	84.5	86.7	88.6	79.2
1975	67.3	67.1	58.2	86.5	86.7	88.6	79.2
1976	71.1	67.5	63.3	89.0	93.8	96.4	82.7
1977	70.9	68.8	70.5	99.5	102.4	105.5	89.8
1978	72.0	68.0	70.5	97.9	103.7	106.8	89.8
1979	76.2	72.3	73.7	96.7	101.9	107.6	76.0
1980	75.3	72.2	71.7	95.2	99.3	104.7	76.0
1981	77.7	74.7	72.8	93.7	97.5	102.3	76.0
1982	81.7	76.1	74.2	90.8	97.5	97.8	96.5
1983	85.2	79.9	81.4	95.5	101.9	101.7	103.5
1984	83.7	88.7	89.8	95.8	101.2	100.9	103.5
1985	87.6	93.4	95.2	97.5	101.9	101.7	103.5
1986	98.9	96.2	98.4	99.5	102.3	101.7	106.9
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	95.6	101.0	103.5	105.0	102.5	104.6	93.1
1989	96.0	100.5	100.5	104.7	100.0	100.8	96.6
1990	102.0	103.8	104.4	102.4	100.6	100.0	103.4
1991	105.3	103.8	101.8	96.7	98.1	96.9	103.4
Average annual percent change:							
1963-91	2.3	2.5	3.8	1.3	1.2	1.1	1.5
1973-91	2.4	2.4	3.4	1.0	1.0	.8	2.0

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

**Table 25. Rice milling (SIC 2044): indexes of output per hour and related measures, 1967-91**  
(1967=100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1967	61.9	65.6	61.2	98.9	93.3	91.4	100.0
1968	66.9	66.6	64.0	95.7	93.3	91.4	100.0
1969	64.6	67.0	62.5	96.8	93.3	91.4	100.0
1970	62.3	65.4	61.0	97.9	93.3	85.8	120.0
1971	63.1	65.8	55.6	88.1	84.5	80.0	100.0
1972	71.3	74.2	65.9	92.4	88.8	85.8	100.0
1973	62.0	65.3	56.6	91.3	86.7	82.9	100.0
1974	71.0	68.7	67.2	94.6	97.8	100.0	90.0
1975	68.8	69.5	68.0	98.9	97.8	100.0	90.0
1976	67.5	65.3	68.2	101.1	104.4	108.7	90.0
1977	76.1	76.8	81.9	107.6	106.6	114.3	80.1
1978	73.5	71.2	80.6	114.3	113.2	108.7	130.0
1979	73.4	72.4	88.4	120.5	122.1	117.2	140.1
1980	84.9	86.1	107.1	126.2	124.4	120.1	140.1
1981	89.8	95.6	106.2	120.5	113.2	117.2	100.0
1982	79.4	78.5	97.6	122.9	124.4	125.8	120.0
1983	78.0	77.1	92.5	118.8	119.9	117.2	130.0
1984	79.2	79.0	79.3	112.9	113.3	105.8	140.1
1985	77.1	75.5	82.1	106.5	108.8	100.0	140.1
1986	83.8	84.4	93.8	111.9	111.1	111.4	110.1
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	83.8	87.4	87.4	104.3	100.0	100.0	100.0
1989	96.7	100.7	105.1	106.5	104.4	105.7	100.0
1990	106.9	111.8	106.9	100.0	95.6	100.0	80.0
1991	101.1	106.0	98.9	97.8	93.3	97.1	80.0
Average annual percent change:							
1963-91	2.8	2.8	2.7	-1	-1	.2	-1.1
1973-91	2.8	2.7	3.1	.4	.4	.9	-1.2

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of the Census; Agricultural Marketing

Service, U.S. Department of Agriculture; the Rice Millers' Association; and the Bureau of Labor Statistics. Employment and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

**Table 25. Wet corn milling (SIC 2045): Indexes of output per hour and related measures, 1967-91**  
(1967=100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1967	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1968	20.6	19.2	31.5	153.2	164.0	167.8	155.7
1969	21.7	21.1	33.1	152.2	156.9	159.4	152.0
1970	20.2	19.7	30.9	152.8	156.9	157.5	155.7
1971	20.4	19.0	28.8	141.2	151.2	152.3	146.2
1972	26.5	25.1	35.3	133.3	140.7	142.3	137.0
1973	24.1	23.2	31.6	131.0	136.1	139.0	129.8
1974	30.1	28.9	37.3	123.9	129.0	130.4	126.0
1975	31.4	30.4	38.5	122.8	126.7	128.8	111.2
1976	35.2	34.0	43.4	123.2	127.8	125.4	111.2
1977	42.3	39.9	50.5	119.4	126.7	132.1	114.8
1978	44.1	40.8	52.8	119.4	129.0	137.1	111.2
1979	44.7	41.8	52.4	117.2	125.5	127.1	122.3
1980	51.1	47.3	58.8	115.0	124.4	126.7	114.8
1981	58.2	54.5	66.0	113.4	120.9	125.4	111.2
1982	58.7	56.1	62.0	108.6	110.5	113.5	103.7
1983	66.4	65.2	67.5	101.7	103.5	106.7	96.5
1984	81.2	73.4	77.8	95.6	97.7	100.0	92.6
1985	84.5	83.1	84.1	90.5	101.2	103.3	96.5
1986	92.8	92.4	89.3	96.2	96.6	94.9	100.0
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	95.4	96.1	102.8	107.8	107.0	101.7	118.5
1989	96.7	99.9	108.0	109.4	108.1	101.7	122.2
1990	100.1	102.4	110.7	110.8	106.1	101.7	122.2
1991	96.8	100.8	113.5	117.2	112.8	106.1	129.6
Average annual percent change:							
1963-91	6.5	6.7	5.8	-9	-1.1	-1.8	.1
1973-91	8.0	8.5	7.4	-8	-1.0	-1.5	.0

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Corn Refiners Association, the Bureau of the Census, and the Bureau of Labor Statistics.

**Table 27. Prepared feeds for animals and fowls (SIC 2047, 2048): Indexes of output per hour and related measures, 1967-91**  
(1967=100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1967	50.0	51.5	57.2	114.4	111.0	118.0	100.1
1968	52.7	53.3	56.9	111.8	110.5	117.3	100.1
1969	54.5	55.2	63.8	116.6	115.3	122.5	104.4
1970	55.7	55.7	62.2	118.8	118.9	130.1	101.2
1971	58.9	58.7	67.6	112.8	113.3	124.0	95.6
1972	58.0	60.4	73.3	126.4	121.4	132.0	104.8
1973	54.7	58.7	69.2	126.6	117.6	126.7	103.7
1974	58.6	57.8	71.4	126.1	123.6	132.2	106.7
1975	57.3	58.8	72.0	125.7	122.8	132.0	106.1
1976	60.0	61.8	74.7	124.5	120.8	128.7	108.1
1977	66.8	66.8	78.8	118.3	118.3	124.7	106.1
1978	66.7	67.0	82.8	124.1	123.6	128.6	115.5
1979	67.5	68.2	82.2	121.8	120.6	126.6	108.1
1980	69.9	70.0	84.9	121.5	121.2	127.3	111.4
1981	73.7	75.3	86.2	116.9	114.4	118.8	110.8
1982	83.2	82.5	94.4	113.5	114.4	117.8	106.2
1983	84.8	83.2	92.6	109.4	111.3	115.3	104.8
1984	88.2	86.0	92.7	105.1	107.8	106.3	105.2
1985	95.8	93.4	94.3	98.6	101.0	100.5	102.2
1986	93.3	92.7	88.8	95.2	95.8	93.3	99.5
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	101.8	101.8	99.9	98.3	98.3	100.0	95.7
1989	100.4	100.9	101.3	100.9	100.4	100.3	100.5
1990	103.8	104.8	106.8	102.9	101.7	102.7	100.0
1991	103.2	104.3	105.9	102.6	101.5	104.4	98.8
Average annual percent change:							
1963-91	3.4	3.3	2.9	-5	-4	-4	-4
1973-91	3.8	3.2	2.4	-1.2	-8	-1.1	-4

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

**Table 28. Bakery products (SIC 2051, 2052): Indexes of output per hour and related measures, 1967-92**  
(1967 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1967	72.1	71.9	91.6	127.0	127.4	132.6	120.7
1968	73.4	74.1	92.0	125.4	124.2	130.1	118.8
1969	73.6	73.6	94.3	128.1	127.7	134.5	118.5
1970	76.1	76.6	90.6	119.1	118.3	125.5	108.7
1971	77.9	78.9	90.2	115.8	114.3	118.3	107.7
1972	81.9	83.3	94.3	115.1	113.2	118.5	106.1
1973	81.4	83.0	93.4	114.8	112.5	118.4	104.6
1974	81.3	81.3	92.3	113.6	113.6	116.2	109.9
1975	81.2	81.3	92.9	114.4	114.2	116.4	111.4
1976	81.6	82.2	95.9	117.4	116.6	120.1	112.0
1977	86.9	87.3	93.5	107.6	107.1	109.2	104.2
1978	85.1	85.2	93.1	109.4	109.3	110.2	106.2
1979	82.8	83.3	93.1	112.5	111.7	114.6	117.6
1980	81.5	82.5	91.4	112.2	110.8	115.3	104.8
1981	83.7	85.2	91.6	109.4	107.5	110.8	102.8
1982	89.6	89.7	93.7	104.4	104.5	103.1	106.5
1983	93.4	93.1	92.8	99.4	99.7	99.7	99.8
1984	93.9	94.0	94.8	101.0	100.9	100.4	101.8
1985	95.5	95.8	96.5	101.0	100.7	98.0	104.7
1986	101.1	101.7	97.3	96.2	95.7	95.7	96.0
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	92.7	92.7	93.9	101.3	101.3	100.3	102.5
1989	92.4	92.6	91.0	98.5	98.3	97.7	98.1
1990	93.8	94.4	90.1	96.1	95.4	97.8	92.1
1991	90.5	91.7	88.3	97.6	96.3	99.1	92.4
1992 <sup>1</sup>	89.9	91.5	85.7	95.3	93.7	98.2	97.6
Average annual percent change:							
1947-92	1.4	1.3	.5	-.9	-.8	-1.0	-.4
1973-91	.6	.6	-.3	-.9	-.9	-1.0	-.7

<sup>1</sup> Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

**Table 29. Sugar (SIC 2061, 2062, 2063): Indexes of output per hour and related measures, 1967-92**  
(1967 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1967	85.3	82.7	103.5	158.4	165.0	171.9	147.9
1968	88.2	85.8	108.3	158.9	164.6	172.5	135.4
1969	86.5	83.0	106.3	159.9	166.7	176.5	140.2
1970	72.7	68.9	112.9	155.2	163.9	172.5	133.1
1971	71.8	71.7	113.0	157.4	157.7	164.2	133.1
1972	76.5	75.3	118.8	155.2	157.7	163.5	135.4
1973	91.5	91.9	120.3	147.6	146.9	149.9	135.0
1974	78.9	81.4	118.3	149.9	145.3	150.4	124.7
1975	79.8	78.2	119.3	149.9	156.6	157.7	132.5
1976	81.0	80.5	129.0	158.3	160.2	160.1	158.8
1977	84.6	82.8	125.0	147.7	151.0	149.9	154.8
1978	83.2	79.5	114.6	137.8	144.2	143.4	147.5
1979	87.2	84.2	113.4	130.0	134.6	133.8	137.4
1980	84.7	81.4	110.4	130.3	135.7	136.3	132.4
1981	83.6	80.5	112.9	135.0	140.2	141.5	135.0
1982	76.6	73.1	97.4	127.2	133.2	132.6	135.0
1983	82.3	78.6	93.4	113.5	117.3	116.6	112.4
1984	82.5	80.1	94.0	113.9	117.3	117.9	115.0
1985	85.9	85.6	89.4	104.1	104.5	104.4	105.0
1986	88.5	89.9	90.6	102.7	101.1	100.0	105.0
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	97.4	97.3	96.4	99.0	99.1	100.6	93.9
1989	92.7	95.9	97.2	104.9	101.4	102.4	98.0
1990	93.9	95.5	94.2	100.3	98.6	99.4	95.9
1991	97.0	101.1	101.8	104.7	100.5	101.8	95.9
1992 <sup>1</sup>	101.9	104.6	104.6	102.7	100.0	103.6	97.9
Average annual percent change:							
1947-92	2.8	2.8	1.1	-1.7	-1.7	-1.8	-1.0
1973-91	1.0	1.2	-.9	-1.9	-2.1	-2.1	-1.9

<sup>1</sup> Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Agricultural Marketing Service and Statistical

Reporting Service, U.S. Department of Agriculture, and the Bureau of the Census. Employment and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.



**Table 30. Raw and refined cane sugar (SIC 2061, 2062): Indexes of output per hour and related measures, 1967-92**  
(1967 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1967	75.3	74.8	124.7	165.5	166.7	166.9	166.8
1968	76.5	76.2	123.0	160.7	161.4	162.4	159.5
1969	73.8	71.0	113.5	153.7	159.8	157.0	170.5
1970	80.0	77.9	119.7	149.6	153.7	150.1	166.8
1971	76.9	77.8	121.0	157.3	155.5	152.5	166.8
1972	80.9	82.5	127.6	157.7	154.7	150.1	170.5
1973	86.7	86.1	133.9	154.4	152.0	150.1	159.5
1974	84.6	86.6	133.1	157.4	153.7	148.0	174.1
1975	84.3	82.4	129.5	153.6	157.1	151.3	177.9
1976	86.0	86.1	135.2	157.3	157.1	152.5	174.1
1977	92.8	89.9	139.8	150.7	155.5	150.1	174.1
1978	91.2	88.6	132.3	145.1	149.4	144.6	166.6
1979	94.4	92.2	132.3	140.2	143.5	142.3	148.1
1980	92.2	90.8	129.7	140.6	142.8	142.3	144.5
1981	91.7	90.5	133.0	145.1	147.0	147.9	144.5
1982	81.3	79.6	107.5	132.3	135.0	132.3	144.5
1983	91.3	86.9	112.7	123.4	129.7	132.3	122.3
1984	85.1	82.6	104.5	122.8	126.5	126.7	126.0
1985	96.0	93.9	101.0	105.2	107.6	107.8	107.5
1986	95.2	96.0	97.5	102.4	101.8	101.2	103.8
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	98.7	102.3	98.3	99.6	96.1	97.8	91.4
1989	95.9	103.4	102.6	107.0	99.2	101.1	94.3
1990	95.9	101.4	97.4	101.6	96.1	97.8	91.4
1991	102.7	111.7	108.2	105.4	96.9	98.9	91.4
1992 <sup>1</sup>	101.9	105.2	104.4	102.5	95.2	103.2	88.6
Average annual percent change:							
1958-92	2.2	2.4	.4	-1.8	-1.9	-1.9	-2.2
1973-91	.9	1.3	-1.2	-2.1	-2.5	-2.3	-3.0

<sup>1</sup> Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Agricultural Marketing Service and Statistical

Reporting Service, U.S. Department of Agriculture; and the Bureau of the Census.

Employment and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

**Table 31. Beet sugar (SIC 2063): Indexes of output per hour and related measures, 1967-92**  
(1967 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1967	58.3	54.4	79.1	135.6	145.5	152.9	107.7
1968	63.3	60.0	91.1	144.0	151.8	160.8	107.7
1969	62.8	59.7	98.1	156.1	164.4	177.3	100.0
1970	69.1	64.5	105.2	152.3	163.2	175.7	100.0
1971	71.9	72.2	104.1	144.7	144.2	156.1	84.8
1972	78.4	74.6	108.5	138.4	145.5	157.6	84.8
1973	74.3	73.6	103.3	139.0	140.4	151.6	84.8
1974	70.0	67.1	99.3	141.9	148.0	159.2	92.4
1975	72.9	68.3	107.3	147.1	157.0	166.8	107.7
1976	75.6	75.2	123.6	163.6	164.4	172.8	123.2
1977	74.4	74.0	106.7	143.4	144.2	150.0	115.3
1978	73.1	67.9	92.7	126.8	136.6	142.4	107.6
1979	77.8	73.5	90.2	116.0	122.7	122.7	123.2
1980	75.8	69.3	86.8	114.5	125.2	128.8	107.6
1981	73.3	67.3	87.7	119.6	130.4	133.3	115.3
1982	70.5	64.6	84.3	119.6	130.4	133.3	115.3
1983	69.8	69.4	86.5	96.2	96.7	100.0	92.4
1984	79.9	77.5	80.4	100.6	103.8	106.0	92.4
1985	73.4	74.7	74.7	101.8	100.0	100.0	100.0
1986	80.9	82.8	82.8	102.4	100.0	98.5	107.6
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	95.3	90.4	93.5	98.1	103.4	104.0	100.0
1989	87.9	85.4	89.2	101.5	104.5	104.0	107.1
1990	91.0	87.6	89.5	98.3	102.2	101.3	107.1
1991	93.3	91.7	96.8	103.7	105.6	105.3	107.1
1992 <sup>1</sup>	102.2	103.7	104.8	102.5	101.1	104.0	85.7
Average annual percent change:							
1958-92	2.4	2.3	1.6	-.9	-.8	-.8	-.4
1973-91	1.3	1.2	-.4	-1.6	-1.6	-2.0	1.3

<sup>1</sup> Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Agricultural Marketing Service, U.S. Department of Agriculture; and the Bureau of the Census. Employment and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

**Table 32. Malt beverages (SIC 2082): Indexes of output per hour and related measures, 1967-92**  
(1967 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1967	26.9	26.2	49.4	183.6	188.2	176.9	215.4
1968	29.2	28.1	52.1	178.6	185.2	175.6	209.0
1969	31.2	30.2	54.5	174.7	180.7	170.6	205.7
1970	32.2	31.6	57.1	177.4	180.7	168.0	212.3
1971	33.7	32.9	59.1	175.6	179.6	164.5	217.6
1972	37.5	37.5	60.9	162.4	162.6	149.3	194.6
1973	41.8	42.0	65.1	155.7	155.1	149.3	168.3
1974	43.3	43.9	69.4	160.1	158.1	153.0	170.4
1975	49.0	48.7	72.3	147.6	148.6	145.0	157.2
1976	54.2	55.1	74.2	136.9	134.7	130.0	146.3
1977	56.7	56.5	78.4	138.3	138.8	137.6	141.9
1978	57.4	57.9	83.2	145.0	143.8	141.9	148.4
1979	62.3	62.1	86.0	138.0	138.5	138.5	138.6
1980	65.9	66.3	90.3	137.1	136.2	135.0	139.6
1981	67.1	66.9	92.1	137.2	137.7	133.3	149.5
1982	69.5	68.8	93.7	134.8	136.1	130.5	149.5
1983	75.5	74.3	95.3	126.3	126.3	126.1	134.1
1984	80.2	77.8	95.1	118.6	122.3	121.4	125.3
1985	76.8	75.8	96.4	125.6	127.2	119.6	146.2
1986	90.9	93.1	99.8	109.8	107.2	109.8	101.0
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	99.5	99.6	101.6	102.1	102.0	98.8	107.2
1989	99.4	100.5	100.0	100.6	99.5	96.1	105.2
1990	106.0	107.3	103.9	98.0	96.8	91.8	105.2
1991	103.8	104.3	102.2	98.5	98.0	92.6	107.2
1992 <sup>1</sup>	105.1	105.7	101.8	96.9	96.3	91.8	103.9
Average annual percent change:							
1947-92	5.1	4.9	2.6	-2.4	-2.2	-2.3	-2.0
1973-91	5.2	5.2	2.5	-2.5	-2.5	-2.6	-2.5

<sup>1</sup> Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of Alcohol, Tobacco, and Firearms, U.S. Department of the Treasury, and the Bureau of the Census. Employment and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

**Table 33. Bottled and canned soft drinks (SIC 2086): Indexes of output per hour and related measures, 1967-92**  
(1967 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1967	41.4	40.0	43.3	104.5	108.2	127.2	99.0
1968	44.8	42.8	46.5	103.9	108.6	127.7	99.3
1969	43.4	41.8	46.4	106.8	111.0	126.7	102.5
1970	43.6	42.3	46.7	107.2	110.4	126.7	102.5
1971	46.0	45.2	49.2	106.9	108.9	125.0	101.0
1972	47.0	46.7	50.2	106.9	107.4	122.1	100.2
1973	49.2	49.0	53.3	108.3	108.7	122.9	101.9
1974	50.8	50.5	54.2	106.6	107.3	122.7	100.0
1975	55.7	55.2	57.3	102.8	103.8	117.4	97.2
1976	59.3	58.8	63.9	107.8	108.7	121.4	102.5
1977	62.2	61.7	69.0	110.9	111.8	123.9	106.0
1978	64.2	63.9	73.6	114.7	115.2	125.9	109.9
1979	64.4	64.0	75.5	117.2	117.9	125.5	114.1
1980	66.6	66.3	77.4	116.3	116.8	120.4	114.8
1981	68.6	68.4	78.3	113.8	114.4	115.4	114.0
1982	71.0	70.5	79.4	111.9	112.7	112.2	113.0
1983	75.7	75.1	82.3	108.7	109.6	108.1	110.4
1984	81.6	80.9	87.2	106.9	107.8	107.1	108.1
1985	85.1	84.7	90.5	106.4	106.9	106.3	107.1
1986	91.3	91.1	95.5	104.6	104.8	103.7	105.5
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	109.7	109.4	104.4	95.2	95.4	97.0	94.6
1989	119.4	119.5	106.7	89.4	89.3	89.9	88.9
1990	126.6	127.5	109.5	86.5	85.9	86.3	85.8
1991	135.1	136.1	111.3	82.4	81.8	84.3	80.7
1992 <sup>1</sup>	143.5	144.0	112.9	78.7	78.4	85.1	75.0
Average annual percent change:							
1958-92	4.2	4.2	4.0	-1.1	-2.2	-2.3	.0
1973-91	5.8	5.8	4.2	-1.5	-1.6	-2.1	-1.3

<sup>1</sup> Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Sales Survey and Statistical Profile of the Soft

Drink Industry, National Soft Drink Association; the Annual Report of the Beverage Marketing Corporation; and the Bureau of the Census. Employment and hours based on data from the Bureau of Labor Statistics.

**Table 34. Prepared fresh or frozen fish and seafoods (SIC 2092): Indexes of output per hour and related measures, 1972-91**  
(1967 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1972	103.5	100.3	65.6	63.4	65.4	66.9	57.1
1973	95.0	92.1	63.0	66.3	66.4	68.4	67.9
1974	104.3	100.2	64.8	62.1	64.7	64.1	67.9
1975	104.6	100.5	63.2	60.4	62.9	63.5	58.9
1976	99.2	97.5	63.3	63.8	64.9	65.3	62.5
1977	110.7	104.6	93.9	84.8	89.8	90.8	83.9
1978	115.5	109.4	101.6	88.0	92.9	94.8	82.1
1979	97.8	95.9	90.6	92.6	94.5	95.4	89.3
1980	111.2	105.5	96.3	88.4	93.2	94.2	87.5
1981	106.4	103.0	99.1	93.1	96.2	97.9	85.7
1982	101.6	97.5	95.7	94.2	96.2	99.7	89.3
1983	91.5	89.4	80.3	87.8	89.8	90.5	85.7
1984	91.2	87.9	78.5	86.1	89.3	88.3	94.6
1985	89.5	88.0	82.9	92.6	94.2	93.9	96.4
1986	92.9	90.7	87.0	93.6	95.9	93.9	107.1
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	100.2	99.4	102.5	102.3	103.1	100.9	116.1
1989	91.3	93.7	92.2	101.0	98.4	96.6	106.9
1990	87.6	92.9	96.5	112.5	106.0	104.9	112.5
1991	84.8	89.3	93.3	110.0	104.5	103.1	112.5
Average annual percent change:							
1972-91	-1.0	-.6	1.9	2.9	2.5	2.3	3.6
1973-91	-.6	-.2	2.2	2.9	2.4	2.3	2.8

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

**Table 35. Tobacco products (SIC 2111, 2121, 2131): Indexes of output per hour and related measures, 1967-92**  
(1967 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1967	70.5	74.1	115.9	164.3	156.5	169.7	65.0
1968	73.1	74.5	118.3	161.8	158.7	182.4	65.0
1969	71.9	74.0	114.6	159.4	154.9	186.2	66.1
1970	73.6	77.5	119.0	161.7	153.6	185.2	66.1
1971	77.3	80.5	116.2	150.4	144.3	173.4	64.2
1972	77.6	80.0	116.1	149.7	145.1	173.1	66.1
1973	75.9	78.8	119.7	157.7	151.9	180.0	74.0
1974	78.1	79.0	116.1	148.7	146.9	173.4	74.0
1975	79.6	80.9	113.7	142.8	140.6	163.0	79.0
1976	82.9	84.8	117.1	141.3	138.1	159.9	78.0
1977	84.6	84.4	111.3	131.5	131.9	151.2	79.0
1978	86.9	89.1	114.3	131.5	128.3	146.4	77.9
1979	86.6	88.7	114.7	132.5	129.3	145.0	86.0
1980	86.5	89.2	115.6	133.6	129.6	142.9	93.0
1981	85.2	86.9	118.5	139.1	136.4	150.2	99.0
1982	85.4	85.2	112.0	131.2	131.4	140.6	106.0
1983	88.2	87.1	107.4	121.8	123.3	129.1	107.0
1984	91.3	91.9	105.9	116.0	115.2	116.9	111.0
1985	92.9	91.6	103.0	110.9	112.4	115.5	104.0
1986	95.4	95.5	100.3	105.1	105.0	105.2	105.2
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	106.6	100.8	100.5	94.3	99.7	101.4	95.0
1989	107.4	105.4	96.1	91.3	93.1	94.2	90.0
1990	112.2	116.1	102.3	91.2	88.1	86.7	92.0
1991	119.4	117.9	102.3	85.7	86.8	85.3	91.0
1992 <sup>1</sup>	125.0	122.2	105.1	84.1	86.0	84.5	90.0
Average annual percent change:							
1947-92	2.8	2.6	.4	-2.3	-2.1	-2.7	.9
1973-91	2.5	2.3	-.9	-3.3	-3.1	-4.1	1.2

<sup>1</sup> Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of Alcohol, Tobacco, and Firearms.

U.S. Department of the Treasury; the Bureau of the Census; and Agricultural Marketing Service, U.S. Department of Agriculture. Employment and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

**Table 36. Cigarettes, chewing and smoking tobacco (SIC 2111, 2131): Indexes of output per hour and related measures, 1967-92**  
(1967 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1967	73.3	77.6	86.6	120.9	113.9	137.4	49.5
1968	75.7	77.1	89.6	118.3	116.2	140.9	49.5
1969	72.5	74.7	87.2	120.2	116.7	139.8	53.7
1970	73.7	78.3	91.4	124.0	116.7	140.2	52.6
1971	77.3	80.9	90.7	117.3	112.1	133.6	53.7
1972	77.7	80.6	94.5	121.6	117.3	139.4	56.7
1973	76.8	80.4	101.0	131.5	125.7	148.0	65.3
1974	77.7	79.7	99.1	127.5	124.4	144.9	68.4
1975	80.7	82.3	101.3	125.6	123.1	141.4	72.5
1976	83.8	86.3	107.3	126.1	124.4	142.9	73.7
1977	86.6	86.4	103.3	119.3	119.6	135.5	75.8
1978	89.9	92.3	107.6	119.7	115.9	130.7	75.8
1979	88.6	91.5	109.1	123.1	119.3	132.0	84.2
1980	88.1	91.4	111.1	126.1	121.6	132.4	91.6
1981	86.1	87.8	114.2	132.7	130.1	141.8	97.9
1982	86.1	85.9	108.6	126.1	126.4	134.0	105.3
1983	89.0	87.7	103.6	116.4	118.1	122.4	105.3
1984	90.3	91.5	102.1	113.1	111.6	111.9	110.4
1985	92.9	91.7	100.0	107.7	109.1	111.1	103.2
1986	95.2	95.3	97.2	102.1	102.0	101.5	103.2
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	106.8	100.7	100.7	94.3	100.0	101.6	95.8
1989	107.3	105.5	98.3	91.6	93.2	94.6	89.5
1990	112.7	117.0	102.7	91.1	87.8	86.4	91.6
1991	119.2	118.1	100.7	84.5	85.3	83.7	89.5
1992 <sup>1</sup>	123.9	121.7	103.8	83.8	85.3	84.1	88.4
Average annual percent change:							
1947-92	2.0	1.7	1.2	-8	-6	-1.1	1.9
1973-91	2.5	2.2	.0	-2.4	-2.1	-3.1	1.8

<sup>1</sup> Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of Alcohol, Tobacco, and Firearms.

U.S. Department of the Treasury; the Bureau of the Census; and Agricultural Marketing Service, U.S. Department of Agriculture. Employment and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

**Table 37. Cigars (SIC 2121): Indexes of output per hour and related measures, 1967-91**  
(1967 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1967	53.7	51.8	394.1	734.1	761.2	860.6	360.1
1968	55.6	53.9	410.2	737.6	761.2	860.6	360.1
1969	58.0	56.4	393.2	677.6	697.3	785.6	340.0
1970	60.8	59.2	400.8	659.0	676.7	766.0	320.0
1971	64.4	62.8	377.1	585.1	600.6	685.8	260.0
1972	64.5	62.1	336.3	521.0	541.4	605.0	280.2
1973	61.6	59.5	310.0	503.6	520.6	590.5	240.2
1974	66.6	60.6	284.2	426.5	469.0	540.5	180.0
1975	64.5	60.8	238.8	370.5	392.7	440.5	200.1
1976	68.7	64.3	216.4	314.9	336.3	380.4	159.8
1977	68.8	64.7	199.4	289.9	308.4	350.2	140.1
1978	66.7	62.6	190.6	285.9	304.3	350.2	120.0
1979	69.7	65.7	178.9	256.6	272.2	310.4	120.0
1980	73.2	69.4	169.5	231.7	244.1	275.2	120.0
1981	73.8	72.9	166.3	225.3	228.2	255.4	120.0
1982	76.6	74.4	151.7	198.0	204.1	225.2	120.0
1983	78.0	75.6	151.1	193.9	200.0	215.3	140.1
1984	98.9	90.7	152.5	154.3	168.2	180.2	120.0
1985	91.4	86.9	139.0	152.1	160.0	170.3	120.0
1986	94.9	92.2	136.4	143.8	148.0	150.2	140.1
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	106.2	102.2	96.1	92.4	96.0	100.0	80.0
1989	108.5	103.2	94.9	87.5	92.0	90.0	100.0
1990	106.1	105.8	97.3	91.7	92.0	90.0	100.0
1991	121.8	114.4	123.5	101.4	108.0	105.0	120.0
Average annual percent change:							
1947-91	4.5	4.4	-2.2	-6.4	-6.3	-6.7	-3.2
1973-91	3.9	3.7	-5.0	-6.5	-6.4	-9.1	-3.8

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of Alcohol, Tobacco, and Firearms.

U.S. Department of the Treasury; and the Bureau of the Census. Employment and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

**Table 38. Cotton and synthetic broadwoven fabrics (SIC 2211, 2221): Indexes of output per hour and related measures, 1972-92**  
(1967 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1972	64.6	64.3	98.7	152.8	153.4	153.8	149.4
1973	57.6	56.9	88.9	154.3	156.3	156.3	155.1
1974	59.6	56.7	87.9	147.5	154.9	154.7	155.1
1975	65.2	60.7	87.6	134.4	144.2	144.1	145.3
1976	65.4	62.9	98.4	150.5	156.4	156.8	152.1
1977	75.1	72.0	110.3	146.8	153.1	153.2	151.0
1978	70.2	68.2	99.6	141.8	146.1	145.9	147.3
1979	75.8	73.9	107.5	141.9	145.5	145.8	143.2
1980	79.0	76.2	108.1	136.9	141.9	141.9	142.3
1981	80.7	77.2	104.4	129.4	135.3	134.6	141.6
1982	84.6	74.8	89.5	105.8	119.7	117.8	136.5
1983	91.9	86.2	102.1	111.1	115.8	114.9	124.0
1984	90.7	86.0	100.1	110.4	116.4	115.8	121.4
1985	94.1	87.8	91.8	97.6	104.5	103.9	109.4
1986	101.2	98.4	96.0	94.9	97.6	97.4	99.5
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	98.2	95.6	95.7	97.5	100.1	99.9	101.6
1989	101.9	99.1	94.6	92.8	95.5	95.0	99.5
1990	106.1	100.8	90.4	85.2	89.7	88.6	99.0
1991	114.0	106.5	92.3	81.0	85.1	83.8	95.8
1992 <sup>1</sup>	120.8	117.8	97.5	80.7	82.8	81.0	99.0
Average annual percent change:							
1972-92	3.2	3.1	-1	-3.1	-3.0	-3.2	-2.0
1973-91	3.9	3.7	.2	-3.5	-3.3	-3.4	-2.6

<sup>1</sup> Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

**Table 39. Hosiery (SIC 2251, 2252): Indexes of output per hour and related measures, 1967-92**  
(1967 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1967	44.3	42.9	53.1	142.5	147.1	151.0	117.6
1968	41.4	40.3	62.2	150.1	154.4	157.8	125.5
1969	47.7	46.5	75.4	158.1	162.3	165.7	136.4
1970	56.7	52.2	81.5	143.7	156.0	158.7	134.9
1971	53.4	49.6	67.7	126.7	136.6	136.9	134.9
1972	61.6	59.1	73.7	119.6	124.6	124.4	125.5
1973	64.5	59.3	71.4	110.7	120.5	120.3	121.5
1974	72.5	66.0	64.9	89.5	98.3	97.8	101.2
1975	81.5	73.3	66.6	81.7	90.9	90.9	91.8
1976	92.2	86.4	74.3	80.6	86.0	86.1	83.7
1977	86.6	82.3	73.5	84.9	89.3	90.4	81.2
1978	88.4	84.6	78.4	88.7	92.7	93.2	87.8
1979	93.3	92.2	87.5	93.8	94.9	94.0	102.8
1980	92.9	91.5	86.7	93.3	94.8	93.2	106.0
1981	105.5	104.9	96.4	91.4	91.9	89.6	109.5
1982	98.9	93.3	89.0	90.0	95.4	95.1	98.6
1983	101.9	99.4	97.2	95.4	97.8	99.0	87.8
1984	102.8	100.6	96.6	95.9	98.0	96.1	113.5
1985	101.3	100.6	95.5	94.3	94.9	94.7	97.2
1986	102.8	102.9	99.6	96.9	96.8	96.3	100.0
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	107.4	106.8	105.4	98.1	98.7	99.7	90.7
1989	108.2	107.6	109.2	100.9	101.5	102.5	93.3
1990	105.7	102.3	101.6	96.1	99.3	99.1	101.3
1991	111.4	111.0	107.1	96.1	96.5	96.0	101.3
1992 <sup>1</sup>	117.6	116.1	112.0	95.2	96.5	96.9	93.3
Average annual percent change:							
1947-92	4.5	4.5	2.7	-1.7	-1.7	-1.8	-4
1973-91	3.1	3.5	2.3	-8	-1.2	-1.2	-1.0

<sup>1</sup> Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the National Association of Hosiery Manufacturers, Inc., and the Bureau of the Census. Employment and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.



**Table 40. Yarn spinning mills (SIC 2281): Indexes of output per hour and related measures, 1967-92**  
(1967 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1967	50.0	48.4	41.9	83.8	86.5	89.3	57.0
1968	51.7	51.4	46.3	89.6	90.1	92.7	59.8
1969	54.5	52.3	50.5	92.6	96.5	99.6	65.0
1970	54.5	51.7	48.2	88.5	93.3	95.4	69.0
1971	58.3	57.9	55.8	95.7	96.3	98.1	75.6
1972	58.8	59.6	62.0	105.5	104.0	106.2	81.0
1973	54.8	54.4	60.4	110.2	111.0	113.3	86.3
1974	57.5	53.3	58.3	101.4	109.4	110.5	97.0
1975	65.3	59.0	55.9	85.6	94.7	95.4	87.6
1976	60.3	57.8	61.0	101.1	105.5	107.1	87.6
1977	64.5	63.0	68.0	105.4	107.9	109.0	98.2
1978	67.3	65.2	70.6	104.9	108.3	109.5	96.9
1979	66.9	64.9	67.2	100.5	103.5	104.6	91.5
1980	64.3	61.0	63.0	98.0	103.3	103.6	99.6
1981	66.5	62.2	61.8	92.9	99.3	99.7	96.9
1982	76.2	68.6	57.8	75.9	84.3	84.5	82.3
1983	82.8	80.4	68.1	82.2	84.7	85.1	81.1
1984	84.0	79.2	69.5	82.7	87.7	87.8	86.1
1985	87.5	81.7	66.3	75.8	81.2	81.2	79.8
1986	91.9	82.3	76.0	82.7	82.3	82.7	78.5
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	98.5	93.6	93.6	95.0	100.0	100.3	97.6
1989	103.5	97.5	95.4	92.2	97.8	97.6	100.0
1990	107.1	99.1	93.3	87.1	94.1	93.3	101.2
1991	106.9	100.1	91.6	85.7	91.5	90.6	100.0
1992 <sup>1</sup>	114.8	109.3	99.2	86.4	90.8	90.3	95.2
Average annual percent change:							
1958-92	3.3	3.5	3.9	.6	.4	.3	1.8
1973-91	3.8	3.4	2.3	-1.4	-1.1	-1.2	.8

<sup>1</sup> Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

**Table 41. Men's and boys' suits and coats (SIC 2311): Indexes of output per hour and related measures, 1967-92**  
(1967 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1967	69.3	72.2	160.2	231.1	222.0	229.0	181.4
1968	70.0	73.4	166.8	238.4	227.1	233.4	191.2
1969	68.0	71.0	163.0	239.8	229.5	234.3	200.8
1970	70.1	68.8	142.2	202.9	206.7	209.7	188.6
1971	71.9	70.6	133.1	185.1	188.5	192.3	166.6
1972	84.1	85.3	167.1	198.6	195.9	200.5	170.0
1973	78.6	79.0	157.6	200.5	199.5	203.5	176.3
1974	82.7	79.3	146.5	177.1	184.7	187.1	171.3
1975	88.9	83.9	128.0	144.0	152.6	154.1	144.3
1976	84.8	85.0	132.8	156.6	156.2	160.0	134.5
1977	93.3	93.6	148.0	158.6	158.2	161.6	139.3
1978	86.4	86.7	134.5	155.7	155.2	159.2	133.3
1979	90.4	89.2	125.8	139.2	141.0	141.9	136.7
1980	90.8	91.3	122.4	134.8	134.0	136.6	120.9
1981	93.4	94.0	124.5	133.3	132.5	135.3	115.7
1982	90.0	87.5	113.8	126.5	130.1	132.5	115.7
1983	85.2	84.5	102.8	120.6	121.6	124.0	107.2
1984	91.6	92.5	112.7	123.1	121.8	124.4	106.0
1985	100.5	98.0	107.1	106.6	109.3	111.3	97.6
1986	101.5	99.7	102.5	101.0	102.8	103.2	100.0
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	103.6	105.7	105.4	101.7	99.7	100.6	94.0
1989	105.0	105.3	99.6	94.9	94.6	94.4	96.4
1990	105.2	104.5	90.3	85.8	86.4	84.7	96.4
1991	95.2	97.0	79.5	83.5	82.0	80.2	92.8
1992 <sup>1</sup>	107.3	107.8	83.4	77.7	77.4	75.4	89.2
Average annual percent change:							
1967-92	1.8	1.6	-2.6	-4.3	-4.1	-4.3	-2.8
1973-91	1.1	1.1	-3.7	-4.7	-4.8	-5.0	-3.5

<sup>1</sup> Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of the Census. Employment and hours based on data from the Bureau of Labor Statistics.



**Table 42. Sawmills and planing mills, general (SIC 2421): Indexes of output per hour and related measures, 1967-92**  
(1967 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1967	60.8	56.8	69.1	113.7	121.6	127.5	82.2
1968	62.3	59.1	70.0	112.4	118.4	123.5	85.4
1969	61.8	58.2	69.7	112.8	119.7	124.5	88.6
1970	61.4	57.8	67.8	110.5	117.2	120.2	97.4
1971	66.8	63.3	72.3	108.2	114.0	118.4	88.0
1972	73.3	70.6	79.3	108.2	112.4	115.9	88.9
1973	68.3	65.8	77.0	112.8	117.1	120.7	93.7
1974	65.0	61.2	71.6	110.2	117.0	119.2	102.2
1975	67.4	63.5	75.4	101.5	107.7	110.2	90.6
1976	70.3	67.0	76.5	108.8	114.1	116.8	95.9
1977	68.1	65.7	77.6	113.9	118.1	120.7	101.0
1978	69.7	66.2	77.2	110.7	116.7	118.7	103.7
1979	72.4	68.0	81.1	112.0	119.2	121.2	106.3
1980	70.9	66.5	78.5	110.7	118.1	117.6	122.9
1981	73.5	68.6	74.5	101.4	108.6	108.1	111.9
1982	79.7	72.4	84.4	80.8	89.0	88.3	93.7
1983	85.6	80.0	77.1	90.1	96.4	96.7	92.7
1984	88.6	82.8	79.7	90.0	96.3	97.1	90.6
1985	92.3	87.6	80.5	87.2	91.9	92.9	85.4
1986	102.1	97.3	92.6	90.7	95.2	95.9	90.2
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	102.3	101.8	103.1	100.8	101.3	100.9	104.2
1989	100.1	99.0	98.7	98.6	99.7	98.7	107.3
1990	100.3	99.2	97.0	96.7	97.8	96.3	108.9
1991	102.9	101.5	91.8	89.2	90.4	88.3	106.3
1992 <sup>1</sup>	110.5	110.4	96.8	87.6	87.7	85.8	102.1
Average annual percent change:							
1958-92	2.7	3.0	1.1	-1.6	-1.9	-1.9	-1.2
1973-91	2.3	2.4	1.0	-1.3	-1.4	-1.7	.7

<sup>1</sup> Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the National Forest Products Association, the Bureau of the Census, and the Bureau of Labor Statistics. Employment and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

**Table 43. Millwork (SIC 2431): Indexes of output per hour and related measures, 1967-92**  
(1967 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1967	95.9	95.6	54.1	56.4	56.6	56.9	54.3
1968	97.3	96.2	58.6	60.2	60.9	61.7	56.8
1969	99.7	96.8	59.8	60.0	61.8	62.6	57.6
1970	99.3	96.3	57.4	57.8	59.6	59.8	58.5
1971	99.5	97.1	62.6	62.9	64.5	65.3	60.1
1972	111.1	107.7	77.1	69.4	71.6	73.4	63.4
1973	106.0	102.2	77.9	73.5	76.2	77.5	70.2
1974	96.0	91.8	63.0	65.6	68.6	68.6	68.0
1975	103.8	101.0	62.6	60.3	62.0	61.5	63.4
1976	102.8	99.4	68.9	67.0	69.3	70.1	64.8
1977	103.8	100.7	74.5	71.8	74.0	75.2	68.0
1978	93.6	90.5	70.6	75.4	78.0	79.5	71.2
1979	95.5	91.5	70.4	73.7	76.9	77.4	74.4
1980	97.0	92.6	64.0	66.0	69.1	68.0	73.3
1981	99.8	95.1	64.3	64.4	67.6	66.8	70.7
1982	95.9	92.2	54.3	56.6	58.9	57.2	65.7
1983	98.1	97.2	66.1	67.4	68.0	68.0	68.1
1984	98.8	97.0	73.8	74.7	76.1	76.9	72.8
1985	95.5	94.7	75.8	79.4	80.0	80.6	77.5
1986	100.5	100.1	85.2	84.8	85.1	85.7	82.6
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	98.7	95.9	98.3	99.6	102.5	101.6	106.1
1989	97.8	94.7	95.3	97.4	100.6	99.3	105.6
1990	98.3	95.2	83.1	94.7	97.8	95.1	106.9
1991	96.2	93.7	84.1	87.4	89.8	88.1	105.2
1992 <sup>1</sup>	96.2	94.4	86.6	90.0	91.7	88.8	103.3
Average annual percent change:							
1958-92	.6	.6	2.0	1.4	1.5	1.4	1.9
1973-91	-.5	-.5	.4	1.0	.9	.6	2.3

<sup>1</sup> Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of Labor Statistics and the Bureau of the Census. Employment and hours based on data from the Bureau of Labor Statistics.

**Table 44. Wood kitchen cabinets (SIC 2434): Indexes of output per hour and related measures, 1972-91**  
(1967 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1972	79.7	77.3	41.6	52.2	53.8	63.5	23.4
1973	80.7	77.0	45.6	56.5	59.2	69.3	26.7
1974	75.7	71.5	38.9	51.4	54.4	62.4	27.1
1975	83.6	77.6	34.6	41.4	44.3	50.6	23.0
1976	78.4	73.6	38.4	49.0	52.2	61.5	22.7
1977	96.9	91.0	56.9	58.7	62.5	74.1	26.3
1978	94.9	91.2	64.6	68.1	70.8	83.7	30.1
1979	89.2	84.2	64.4	72.2	76.5	91.3	31.2
1980	95.0	88.5	60.5	63.7	68.4	79.6	31.9
1981	91.8	86.0	57.1	62.2	66.4	75.4	34.5
1982	93.1	87.0	51.6	55.4	59.3	65.4	34.5
1983	90.4	89.1	61.3	67.8	68.8	68.2	71.2
1984	90.2	90.4	72.8	80.7	80.5	81.9	74.8
1985	85.2	83.8	71.5	83.9	85.3	86.8	79.1
1986	83.0	82.0	75.7	91.2	92.3	92.9	89.9
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	98.3	95.9	98.5	100.2	102.7	102.1	105.0
1989	91.4	89.5	93.0	101.7	103.9	103.1	107.2
1990	94.3	92.3	94.2	99.9	102.1	101.0	106.5
1991	92.5	90.1	82.2	88.9	91.2	89.4	98.5
Average annual percent change:							
1972-91	.8	.8	3.6	2.8	2.8	1.8	7.9
1973-91	.8	.9	3.3	2.6	2.4	1.4	7.5

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of the Census and the Bureau of Labor Statistics. Employment and hours based on data from the Bureau of Labor Statistics.

**Table 45. Veneer and plywood (SIC 2435, 2436): Indexes of output per hour and related measures, 1967-92**  
(1967 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1967	49.3	49.3	59.4	120.5	120.6	121.9	111.3
1968	51.7	52.6	64.6	124.9	122.8	124.0	112.9
1969	51.6	51.7	63.6	123.2	123.0	124.0	115.9
1970	58.6	57.5	65.7	112.2	114.2	113.3	122.6
1971	61.7	61.7	73.9	119.8	119.7	118.8	127.3
1972	63.2	65.1	80.1	126.7	123.0	122.6	127.3
1973	61.6	61.7	78.8	127.9	127.7	125.9	143.6
1974	61.8	60.1	70.1	113.4	116.7	114.4	136.9
1975	68.9	66.2	67.4	97.8	101.8	99.1	127.3
1976	68.9	66.2	77.4	112.3	113.5	112.1	125.7
1977	70.5	70.0	83.7	118.7	119.5	118.4	130.6
1978	71.6	70.9	88.7	123.8	125.1	123.3	141.9
1979	66.6	64.7	81.0	121.6	125.1	121.9	154.9
1980	72.4	66.7	73.6	101.7	107.1	103.5	138.7
1981	75.4	71.3	74.3	98.6	104.2	102.6	119.4
1982	60.5	74.8	68.6	85.2	91.7	89.3	112.9
1983	85.4	83.7	81.7	95.7	97.6	96.5	108.0
1984	84.6	82.8	83.7	98.9	101.1	100.9	103.2
1985	85.5	84.3	81.1	94.8	96.2	96.8	91.9
1986	87.1	86.9	85.2	97.8	96.1	96.6	93.6
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	100.4	100.3	100.0	99.6	99.7	98.7	108.1
1989	101.8	102.3	97.5	95.8	95.3	93.8	106.1
1990	102.9	102.7	93.7	91.1	91.2	89.5	106.5
1991	107.2	106.4	86.4	80.6	81.2	79.5	96.8
1992 <sup>1</sup>	106.2	107.8	87.0	81.9	80.7	78.9	96.8
Average annual percent change:							
1968-92	3.8	3.9	3.3	-.5	-.6	-.7	.6
1973-91	3.1	3.1	.5	-2.5	-2.5	-2.5	-2.2

<sup>1</sup> Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of the Census, the Federal Reserve System, and the Bureau of Labor Statistics. Employment and hours based on data from the Bureau of Labor Statistics.

**Table 46. Hardwood veneer and plywood (SIC 2435): Indexes of output per hour and related measures, 1972-91**  
(1987 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1972	54.1	65.5	85.0	132.6	129.8	132.6	110.3
1973	60.7	61.1	80.6	133.2	132.3	136.0	106.8
1974	62.9	61.8	73.2	116.3	118.4	122.0	93.1
1975	69.8	66.9	63.8	91.4	95.3	96.7	86.1
1976	67.3	66.6	69.1	102.6	103.7	105.3	93.1
1977	75.5	74.7	82.5	109.3	110.4	111.5	103.4
1978	76.0	74.4	85.9	113.1	115.5	117.8	100.0
1979	73.8	71.9	84.3	114.3	117.2	118.7	106.8
1980	78.6	75.1	78.2	99.5	104.1	104.8	100.0
1981	75.6	74.2	77.6	102.6	104.6	104.5	106.8
1982	76.6	71.1	65.4	85.4	92.0	90.9	100.0
1983	83.1	81.1	78.0	93.9	96.2	95.7	100.0
1984	78.4	76.6	78.2	99.7	102.1	102.5	100.0
1985	81.7	79.8	75.1	91.9	94.1	94.3	93.1
1986	81.7	80.6	77.9	95.4	96.6	97.1	93.1
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	101.7	101.0	102.7	101.0	101.7	101.0	106.9
1989	101.9	101.0	103.1	101.2	102.1	100.5	113.8
1990	95.7	94.6	94.6	98.9	100.0	98.1	113.8
1991	98.4	97.3	89.9	91.4	92.4	90.4	106.9
Average annual percent change:							
1972-91	2.3	2.1	.3	-1.9	-1.8	-2.0	-.2
1973-91	2.7	2.6	.6	-2.1	-2.0	-2.2	.0

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of the Census and the Bureau of Labor Statistics. Employment and hours based on data from the Bureau of Labor Statistics.

**Table 47. Softwood veneer and plywood (SIC 2436): Indexes of output per hour and related measures, 1972-92**  
(1987 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1972	63.3	65.5	77.7	122.8	118.7	116.3	142.5
1973	62.6	62.4	77.8	124.3	124.7	119.7	175.8
1974	61.6	59.5	68.7	111.5	115.4	109.6	175.8
1975	68.0	65.4	69.3	101.9	106.0	100.5	163.6
1976	69.1	68.4	81.7	118.3	119.5	116.1	154.5
1977	67.6	67.2	84.3	124.7	125.4	122.5	154.5
1978	68.0	68.6	90.2	130.4	131.4	126.7	178.9
1979	63.2	61.1	79.6	125.9	130.3	123.7	197.0
1980	65.4	65.7	71.6	103.1	108.9	102.6	172.4
1981	75.7	70.2	72.9	96.3	103.9	101.4	130.3
1982	82.7	76.9	70.3	85.0	91.4	88.3	124.2
1983	86.2	84.6	83.4	96.8	98.6	97.1	115.3
1984	87.9	86.0	86.4	98.3	100.5	100.0	106.1
1985	87.3	86.3	84.1	96.3	97.5	98.1	90.9
1986	89.5	90.0	89.0	99.4	98.9	99.4	93.9
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	100.1	100.3	98.7	98.6	98.4	97.4	109.1
1989	102.7	104.2	94.7	92.2	90.9	89.7	103.0
1990	108.4	109.0	93.3	86.1	85.6	84.2	100.0
1991	114.6	114.3	84.7	73.9	74.1	72.7	87.9
1992 <sup>1</sup>	117.5	120.3	87.8	74.7	73.0	71.8	84.8
Average annual percent change:							
1972-92	3.1	3.1	.6	-2.5	-2.4	-2.4	-2.6
1973-91	3.4	3.4	.5	-2.8	-2.9	-2.7	-3.8

<sup>1</sup> Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of the Census, the Bureau of Labor Statistics, and the American Plywood Association. Employment and hours based on data from the Bureau of Labor Statistics.

**Table 48. Wood containers (SIC 244): Indexes of output per hour and related measures, 1977-91**  
(1987 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1977	84.6	84.0	84.2	99.5	100.2	104.4	76.6
1978	84.6	83.6	86.6	104.7	106.0	110.1	82.8
1979	75.6	75.0	83.8	110.8	111.8	116.3	87.5
1980	89.0	86.7	87.8	98.6	101.3	103.8	89.1
1981	96.6	86.3	84.8	97.9	98.3	99.2	93.8
1982	101.9	100.0	89.7	88.0	88.7	89.0	93.8
1983	101.8	102.0	92.0	90.4	90.2	89.6	93.8
1984	104.5	104.2	102.0	97.6	97.9	98.0	96.9
1985	101.0	100.4	98.0	97.0	97.6	97.7	96.9
1986	99.9	99.4	96.8	96.9	97.4	97.5	96.9
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	103.6	104.1	108.8	105.0	104.5	104.8	103.1
1989	109.6	110.1	117.5	107.2	106.7	106.5	107.8
1990	113.2	115.5	124.3	109.8	107.6	107.0	110.9
1991	115.0	116.8	122.6	106.6	105.0	103.9	110.9
Average annual percent change: 1977-91	2.2	2.4	2.7	.5	.3	.0	2.7

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of the Census and the Bureau of Labor Statistics. Employment and hours based on data from the Bureau of Labor Statistics.

**Table 49. Household furniture (SIC 251): Indexes of output per hour and related measures, 1967-92**  
(1987 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1967	66.7	66.0	66.6	99.9	97.9	100.6	83.5
1968	68.2	70.7	71.1	104.3	100.6	103.5	85.7
1969	68.9	70.9	73.3	106.4	103.4	106.1	89.0
1970	69.4	70.7	70.1	101.0	99.2	100.7	91.0
1971	73.1	74.3	75.4	103.2	101.5	102.7	94.1
1972	79.7	80.1	89.4	112.2	111.6	113.2	103.4
1973	82.3	82.1	94.4	114.7	115.0	119.2	91.7
1974	80.9	79.0	86.7	107.2	109.7	110.5	105.7
1975	82.4	78.4	73.4	89.1	93.6	94.0	91.3
1976	84.2	81.8	83.4	99.0	101.9	102.7	97.4
1977	84.5	82.7	90.1	106.6	109.0	110.2	102.0
1978	88.6	87.7	97.6	110.2	111.3	112.3	105.9
1979	85.7	84.5	93.8	109.4	111.0	111.3	109.4
1980	84.5	82.1	87.5	103.6	106.6	106.2	109.2
1981	87.0	84.7	87.1	100.1	102.8	102.4	105.3
1982	88.4	83.2	77.0	87.1	92.5	92.0	95.6
1983	92.8	90.3	84.4	90.9	93.5	94.1	91.0
1984	92.7	90.8	89.5	96.5	98.6	99.2	95.8
1985	94.6	92.0	89.5	94.6	97.3	97.4	97.2
1986	99.4	96.9	94.6	95.2	95.7	96.4	92.0
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	100.9	100.1	99.8	96.9	99.7	100.2	96.8
1989	101.4	100.8	99.1	97.7	98.3	98.1	99.5
1990	100.8	100.2	96.9	96.1	96.7	96.1	100.0
1991	104.3	101.8	92.8	88.8	91.0	90.2	95.6
1992 <sup>1</sup>	106.2	105.4	95.7	90.1	90.8	90.3	93.6
Average annual percent change:							
1958-92	1.9	1.9	2.2	.2	.3	.2	.5
1973-91	1.3	1.2	-.1	-1.4	-1.3	-1.5	.2

<sup>1</sup> Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the International Sleep Products Association; the Bureau of the Census; the International Trade Administration, U.S. Department of Commerce; and the Bureau of Labor Statistics.

**Table 50. Wood household furniture (SIC 2511, 2517): Indexes of output per hour and related measures, 1967-92**  
(1967 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1967	72.1	74.3	72.5	100.6	97.6	101.0	75.9
1968	74.0	78.0	76.4	103.2	97.9	101.6	77.2
1969	76.2	79.5	79.9	104.8	100.5	103.4	81.4
1970	74.2	78.3	71.4	96.2	93.6	95.5	82.3
1971	79.3	80.9	79.1	99.7	97.8	99.3	87.4
1972	87.8	89.1	96.0	106.3	107.7	109.4	97.0
1973	92.3	93.1	100.8	109.2	106.3	115.4	94.6
1974	88.7	87.2	94.2	106.2	106.0	106.6	106.2
1975	87.0	81.8	76.5	87.9	93.5	93.7	93.9
1976	89.9	87.0	91.0	101.2	104.6	105.1	101.8
1977	88.8	87.9	94.0	105.9	106.9	108.4	98.9
1978	93.1	93.1	103.2	110.8	110.8	111.2	110.7
1979	90.2	89.5	93.8	104.0	104.8	104.5	108.6
1980	86.4	83.0	85.2	98.6	102.6	101.9	110.1
1981	86.6	84.3	84.3	97.4	100.0	99.3	105.6
1982	87.2	80.5	75.3	86.4	93.5	92.9	96.3
1983	92.2	88.6	82.5	89.5	93.1	92.9	94.4
1984	93.9	91.3	91.8	97.8	100.6	100.7	100.0
1985	93.1	89.8	89.0	95.6	99.1	98.6	102.9
1986	99.9	98.8	93.9	94.0	95.0	96.8	85.9
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	101.1	99.3	99.7	98.8	100.4	100.4	100.0
1989	99.5	97.7	95.7	96.2	98.0	96.8	106.2
1990	98.3	96.6	91.5	93.1	94.7	93.1	106.2
1991	99.8	96.9	84.9	85.1	87.6	85.7	101.1
1992 <sup>1</sup>	99.2	97.4	87.0	87.7	86.3	87.6	101.1
Average annual percent change:							
1968-92	1.5	1.4	1.9	.3	.4	.3	1.1
1973-91	.4	.2	-.9	-1.4	-1.2	-1.6	3.0

<sup>1</sup> Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census; the International Trade Administration, U. S. Department of Commerce; and the Bureau of Labor Statistics.

**Table 51. Upholstered household furniture (SIC 2512): Indexes of output per hour and related measures, 1967-92**  
(1967 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1967	63.5	64.7	55.6	87.6	86.0	86.9	80.0
1968	64.2	65.8	60.3	93.9	91.7	93.8	80.0
1969	63.5	65.0	62.0	87.7	95.4	96.6	86.9
1970	66.7	68.0	65.1	97.6	95.8	96.8	89.2
1971	66.9	69.2	66.7	99.7	96.4	97.3	90.8
1972	71.0	71.4	80.0	112.7	112.0	112.5	109.2
1973	72.2	71.5	82.6	114.4	115.6	115.7	115.3
1974	72.7	70.5	76.1	104.7	107.9	106.2	105.6
1975	76.9	74.1	87.1	87.2	90.5	91.2	86.2
1976	77.7	74.9	72.3	83.1	96.5	97.1	92.8
1977	79.0	76.0	82.5	104.4	106.5	106.8	107.3
1978	86.0	84.4	91.9	106.8	106.9	109.5	105.6
1979	83.1	81.0	93.6	112.7	115.6	116.9	108.8
1980	80.9	80.5	87.2	107.8	106.3	107.7	112.0
1981	87.4	84.2	85.3	97.6	101.3	101.0	103.2
1982	91.6	86.0	74.0	80.8	86.0	85.9	86.4
1983	96.0	93.2	82.3	85.7	88.3	89.9	79.3
1984	90.6	88.8	82.8	91.4	93.2	93.1	93.6
1985	96.7	95.9	88.7	89.9	92.5	92.4	93.6
1986	100.6	100.8	95.6	95.0	94.8	94.2	98.4
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	99.8	98.8	98.3	98.5	99.5	100.3	95.2
1989	101.0	101.2	99.8	98.6	98.4	99.0	95.2
1990	98.5	96.5	101.8	103.1	102.1	102.7	98.4
1991	103.4	102.1	99.9	96.6	97.8	98.4	94.4
1992 <sup>1</sup>	108.2	109.3	104.1	96.2	95.2	96.3	89.6
Average annual percent change:							
1968-92	1.9	1.9	2.9	.9	.9	1.0	.6
1973-91	2.0	2.0	1.1	-.9	-.9	-.9	-1.1

<sup>1</sup> Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census; the International Trade Administration, U. S. Department of Commerce; and the Bureau of Labor Statistics.

**Table 52. Metal household furniture (SIC 2514): Indexes of output per hour and related measures, 1967-92**  
(1967 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1967	63.2	62.9	64.8	102.6	103.0	106.2	89.7
1968	65.2	65.4	68.6	106.7	106.5	109.0	96.6
1969	65.7	64.8	70.4	107.1	108.0	113.6	88.7
1970	69.0	67.5	72.8	105.2	107.8	109.9	96.3
1971	70.1	69.3	72.8	103.6	104.7	106.2	96.3
1972	75.7	73.0	83.4	110.1	114.3	117.7	100.0
1973	75.9	74.6	91.5	120.5	122.6	125.9	108.7
1974	72.5	69.4	81.8	112.5	117.8	118.5	113.6
1975	75.8	71.8	67.5	89.1	94.0	93.5	96.6
1976	77.7	75.2	76.2	96.1	101.3	102.0	98.3
1977	80.6	77.9	85.9	106.6	110.3	112.7	100.0
1978	78.6	76.6	87.0	110.7	113.3	116.5	100.0
1979	72.8	71.7	82.0	112.9	114.3	115.2	110.3
1980	75.5	72.4	75.9	100.5	104.8	107.9	93.1
1981	79.5	77.8	77.0	96.9	99.0	100.4	93.1
1982	96.6	86.0	77.1	89.0	89.7	88.5	94.8
1983	87.7	87.7	82.4	94.0	94.0	94.7	91.4
1984	97.3	95.6	87.7	95.1	91.7	93.6	82.7
1985	99.4	97.3	87.9	88.4	90.3	92.2	82.7
1986	102.9	103.6	92.5	89.9	89.3	89.3	89.6
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	100.6	104.3	101.5	100.9	97.3	96.7	100.0
1989	99.8	102.1	95.7	95.9	93.7	95.9	84.5
1990	103.7	104.2	91.7	88.4	88.0	91.4	74.1
1991	107.4	105.7	87.4	81.4	82.7	85.2	72.4
1992 <sup>1</sup>	116.0	115.4	89.7	77.3	77.7	80.7	65.5
Average annual percent change:							
1968-92	2.3	2.3	1.5	-8	-8	-7	-1.2
1973-91	1.9	2.0	-3	-2.2	-2.2	-2.1	-2.2

<sup>1</sup> Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census, the International Trade Administration, U. S. Department of Commerce, and the Bureau of Labor Statistics.

**Table 53. Mattresses and bedsprings (SIC 2515): Indexes of output per hour and related measures, 1967-92**  
(1967 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1967	54.6	55.0	70.3	126.7	127.6	136.3	104.6
1968	56.9	58.9	77.5	136.2	131.5	139.7	106.3
1969	55.3	57.3	77.7	140.4	135.7	144.2	112.3
1970	57.7	59.2	75.7	-9.2	127.6	134.3	110.7
1971	64.3	64.9	86.1	133.9	132.7	140.2	112.3
1972	71.1	71.2	91.5	128.7	128.5	135.1	110.7
1973	75.3	74.4	102.5	136.2	137.7	146.5	113.9
1974	80.3	78.4	90.5	112.7	115.5	122.4	96.9
1975	82.8	80.4	82.3	99.6	102.4	106.9	84.6
1976	84.4	83.6	86.3	104.6	105.6	110.5	92.2
1977	85.3	84.1	92.9	106.9	110.5	115.1	96.4
1978	86.5	84.8	92.8	107.3	109.4	115.6	92.3
1979	87.5	87.5	103.2	117.9	116.0	121.1	106.3
1980	95.5	93.5	106.3	111.3	113.7	116.1	107.8
1981	97.2	95.8	110.9	114.1	115.8	117.6	110.7
1982	88.9	86.6	90.1	101.3	104.1	106.2	96.4
1983	89.8	89.8	94.2	104.9	104.9	107.2	96.4
1984	88.4	87.4	94.1	106.4	107.7	112.2	95.5
1985	85.3	85.0	91.2	106.9	107.3	110.5	96.4
1986	89.7	89.7	94.1	104.9	104.9	106.6	93.8
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	104.6	104.6	102.9	96.5	96.4	102.2	87.7
1989	112.0	112.6	117.7	105.1	104.5	105.0	103.1
1990	114.7	116.2	117.6	102.5	101.2	98.9	107.7
1991	122.1	120.3	119.9	98.1	99.6	98.9	101.5
1992 <sup>1</sup>	126.6	127.1	127.1	100.4	100.0	98.9	103.1
Average annual percent change:							
1968-92	3.2	3.2	2.4	-8	-8	-1.0	-1
1973-91	2.7	2.7	.9	-1.8	-1.8	-2.2	-6

<sup>1</sup> Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the International Sleep Products Association, the Bureau of the Census and the Bureau of Labor Statistics.



**Table 54. Office furniture (SIC 252): Indexes of output per hour and related measures, 1967-92**  
(1967 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1967	72.6	75.5	32.9	45.2	43.6	46.5	35.1
1968	71.7	76.1	33.4	46.6	43.9	46.3	36.6
1969	73.9	77.2	36.3	51.6	49.6	51.5	43.9
1970	85.7	89.0	31.8	46.4	46.1	47.5	41.9
1971	70.4	73.0	30.5	43.3	41.8	42.2	40.5
1972	77.2	79.9	36.9	50.4	48.7	50.5	43.4
1973	76.2	78.3	41.2	54.1	52.6	55.0	45.9
1974	69.9	70.8	39.1	55.9	55.2	56.9	43.9
1975	71.6	70.4	32.1	44.7	45.6	46.7	42.4
1976	75.5	74.8	35.7	47.3	47.7	49.2	43.4
1977	84.1	84.4	47.1	56.0	55.8	56.3	48.3
1978	84.1	84.7	50.9	60.5	60.1	63.2	51.2
1979	90.2	92.1	57.0	63.2	61.9	64.6	53.2
1980	94.1	92.4	61.0	64.8	66.0	66.3	65.4
1981	91.4	92.5	61.9	67.7	66.9	67.6	64.8
1982	90.2	89.6	65.3	72.4	72.9	72.9	72.7
1983	94.4	92.9	69.0	73.1	74.3	74.6	72.7
1984	96.3	101.2	81.8	82.4	80.8	81.4	79.0
1985	98.6	96.5	84.3	85.5	84.7	83.6	87.8
1986	96.6	96.4	84.4	84.7	84.9	84.1	87.3
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	95.3	95.3	95.2	96.9	99.9	101.2	96.1
1989	97.1	96.3	97.8	100.6	98.6	96.7	96.5
1990	95.6	96.2	91.1	95.3	92.8	90.2	94.6
1991	95.0	97.2	79.8	83.8	81.9	79.4	89.3
1992 <sup>1</sup>	97.6	104.2	84.4	86.5	81.0	78.9	87.3
Average annual percent change:							
1958-92	1.9	2.0	5.1	3.3	3.1	2.7	4.2
1973-91	1.2	1.2	3.7	2.6	2.5	2.1	3.8

<sup>1</sup> Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Business and Institutional Furniture Manufacturers Association, the Bureau of the Census and the Bureau of Labor Statistics.

**Table 55. Wood office furniture (SIC 2521): Indexes of output per hour and related measures, 1967-91**  
(1967 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1967 .....	90.5	93.9	24.8	27.4	26.4	26.3	10.7
1968 .....	90.4	96.1	26.3	29.1	26.6	26.7	19.7
1969 .....	94.5	100.7	30.6	32.6	30.6	32.4	24.3
1970 .....	96.1	87.7	27.2	31.6	31.0	33.6	21.3
1971 .....	83.5	82.9	23.2	27.8	29.0	29.9	21.3
1972 .....	96.8	88.4	32.6	37.8	37.1	38.3	26.8
1973 .....	90.3	90.7	32.3	40.2	40.0	42.6	30.3
1974 .....	85.1	83.3	36.0	42.3	43.2	46.7	30.3
1975 .....	82.8	75.9	26.4	34.3	37.4	39.7	26.8
1976 .....	84.1	80.4	33.2	39.5	41.3	43.9	31.8
1977 .....	102.9	103.3	53.3	51.8	51.6	52.4	48.5
1978 .....	103.2	101.6	57.3	55.5	56.4	56.1	57.5
1979 .....	113.9	115.0	74.5	65.4	64.8	63.9	66.2
1980 .....	112.4	104.0	66.0	60.5	65.4	63.8	72.7
1981 .....	102.2	102.6	63.9	62.5	62.5	61.0	66.7
1982 .....	92.8	90.7	61.5	66.3	67.6	66.0	66.7
1983 .....	96.5	95.8	64.3	66.6	67.1	66.0	63.7
1984 .....	96.6	99.2	79.4	60.4	60.0	60.3	79.8
1985 .....	96.1	96.6	76.2	76.9	76.5	75.9	76.6
1986 .....	96.0	93.4	74.7	77.8	80.0	81.2	75.7
1987 .....	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988 .....	94.7	92.4	91.8	96.9	99.4	100.8	93.9
1989 .....	94.2	95.4	95.4	101.3	100.0	99.6	101.5
1990 .....	95.6	96.3	87.6	91.4	91.0	90.6	92.4
1991 .....	96.0	99.9	72.5	73.2	72.6	69.7	83.3
Average annual percent change							
1958-91 .....	1.1	1.1	5.9	4.2	4.2	3.8	6.0
1973-91 .....	1.2	1.2	4.6	3.4	3.4	2.8	5.6

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

**Table 56. Office furniture, except wood (SIC 2522): indexes of output per hour and related measures, 1967-91**  
(1967=100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1967	66.7	69.1	37.6	56.4	54.4	59.0	42.4
1968	65.5	69.2	37.7	57.6	54.5	58.4	44.6
1969	67.3	70.2	43.1	64.0	61.4	64.5	53.2
1970	59.2	62.9	35.0	59.1	55.6	57.1	51.8
1971	65.6	69.4	44.9	53.0	50.3	50.6	49.6
1972	73.5	79.8	43.0	58.5	56.0	58.0	50.4
1973	74.5	77.2	48.8	62.8	60.6	63.5	53.2
1974	64.1	66.1	41.4	64.8	62.6	67.4	50.4
1975	67.6	68.4	34.7	51.3	50.7	51.4	48.9
1976	72.2	72.9	37.7	52.2	51.7	52.9	48.9
1977	76.0	76.5	44.6	56.7	56.3	52.3	48.2
1978	75.9	77.4	46.3	63.6	62.4	66.0	48.2
1979	79.5	82.0	49.2	61.9	60.0	65.4	48.0
1980	86.5	90.0	58.4	67.5	66.4	66.2	61.9
1981	86.7	86.0	61.5	70.9	69.9	72.1	64.0
1982	88.7	88.9	67.6	76.2	76.0	76.3	75.5
1983	93.1	91.3	71.8	77.1	76.6	79.3	77.0
1984	99.8	102.6	83.4	83.6	81.3	82.2	79.2
1985	96.1	99.4	89.2	90.9	89.7	86.9	82.1
1986	101.5	102.7	90.3	89.0	87.9	86.0	82.8
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	95.7	97.2	97.4	101.8	100.2	101.4	97.1
1989	99.0	101.7	99.5	100.5	97.8	98.0	97.1
1990	95.5	99.4	93.4	97.8	94.0	93.3	95.7
1991	92.7	95.9	94.1	90.7	87.7	86.0	92.1
Average annual percent change							
1968-91	2.0	2.1	4.9	2.9	2.9	2.4	3.9
1973-91	1.2	1.2	3.3	2.1	2.1	1.7	3.1

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

**Table 57. Pulp, paper, and paperboard mills (SIC 2611, 2621, 2631): indexes of output per hour and related measures, 1967-92**  
(1967=100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1967	49.9	50.5	59.8	122.2	116.5	124.4	99.8
1968	52.0	54.0	64.3	123.6	119.0	125.7	98.0
1969	54.1	56.1	67.7	125.1	120.6	127.4	100.2
1970	56.1	56.7	67.1	119.7	116.3	123.9	100.9
1971	56.7	59.6	67.6	115.6	113.7	117.9	100.5
1972	63.7	65.3	73.2	114.9	112.1	116.5	97.6
1973	66.3	67.8	76.6	115.5	113.0	118.1	96.6
1974	66.3	66.8	76.3	115.0	114.3	118.9	99.4
1975	62.6	61.3	64.7	103.1	105.6	106.2	96.3
1976	66.9	66.4	75.4	109.5	110.3	113.5	96.8
1977	72.5	71.4	76.4	106.9	110.5	113.5	100.9
1978	74.7	73.6	80.7	106.0	109.4	111.4	102.2
1979	76.3	75.4	83.6	106.5	110.9	113.0	104.4
1980	76.1	75.3	83.0	109.0	110.2	111.9	105.0
1981	75.4	74.2	80.7	107.0	106.6	110.7	102.6
1982	80.7	78.1	81.3	106.6	104.1	104.9	101.1
1983	86.6	85.0	87.5	101.0	100.9	104.0	99.8
1984	87.6	86.8	90.7	103.5	104.5	105.1	102.2
1985	89.1	87.3	91.1	102.2	104.4	104.3	104.6
1986	96.9	96.5	96.7	99.6	100.2	100.6	99.1
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	101.9	102.0	103.4	101.6	101.4	102.1	99.3
1989	102.5	102.7	103.6	101.1	100.9	101.5	96.9
1990	103.2	103.6	106.6	102.5	101.9	100.9	105.3
1991	105.2	105.5	106.7	101.4	101.1	100.6	102.6
1992 <sup>1</sup>	112.9	113.8	112.3	99.5	98.7	98.1	100.7
Average annual percent change							
1947-80	3.6	3.4	3.4	-2	0	-3	1.5
1973-91	2.6	2.5	1.9	-7	-6	-9	3

<sup>1</sup> Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of the Census, the Bureau of Labor Statistics, and the American Forest Products Association. Employment and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

**Table 58. Corrugated and solid fiber boxes (SIC 2653): Indexes of output per hour and related measures, 1967-92**  
(1967=100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1967	53.2	53.7	49.4	92.9	92.0	94.8	84.2
1968	55.0	55.9	53.3	96.9	95.4	98.9	86.3
1969	56.3	56.9	57.0	101.3	100.1	103.1	91.9
1970	59.3	57.7	57.2	96.5	99.2	101.7	92.9
1971	62.9	61.6	59.8	95.0	97.1	99.0	92.9
1972	64.6	64.6	66.0	102.2	102.1	104.7	95.4
1973	69.9	69.7	72.3	103.5	103.8	107.4	94.6
1974	74.7	70.4	68.7	92.0	97.6	99.1	93.7
1975	78.1	74.3	62.9	80.5	84.6	83.3	86.4
1976	82.3	79.3	71.2	86.5	89.8	90.0	89.4
1977	81.2	78.6	75.5	93.0	96.1	95.5	97.8
1978	83.9	80.8	81.0	96.6	100.2	100.3	100.3
1979	86.6	83.8	82.3	95.0	98.2	98.3	96.5
1980	90.1	86.3	79.5	88.2	92.1	90.2	97.2
1981	89.1	86.5	79.7	89.5	92.1	90.5	97.2
1982	90.7	86.8	77.5	85.4	89.3	87.3	94.7
1983	92.5	90.7	83.1	89.8	91.6	89.3	96.2
1984	96.5	94.9	88.8	92.0	93.6	92.8	96.1
1985	99.3	96.7	89.5	90.1	92.6	92.1	94.0
1986	102.6	101.1	94.8	92.4	93.8	93.3	95.7
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	99.6	99.6	103.4	103.8	103.8	102.9	106.9
1989	97.7	98.1	105.6	106.1	107.6	106.4	111.5
1990	100.3	99.8	107.7	107.4	107.9	106.5	112.2
1991	100.0	100.1	108.3	108.3	108.2	107.0	112.2
1992 <sup>1</sup>	101.1	101.7	113.1	111.9	111.2	109.9	115.3
Average annual percent change:							
1968-92	2.7	2.7	4.3	1.5	1.5	1.4	1.9
1973-91	2.0	2.0	2.3	.3	.2	.0	1.0

<sup>1</sup> Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Fiber Box Association, and the Bureau of the Census. Employment and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

**Table 59. Folding paperboard boxes (SIC 2657): Indexes of output per hour and related measures, 1967-92**  
(1967=100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1967	73.8	73.8	83.0	112.3	112.5	115.0	103.9
1968	76.4	76.0	86.5	110.4	110.9	114.6	97.5
1969	76.0	75.2	91.7	120.6	121.9	126.4	107.0
1970	70.6	68.4	76.0	107.7	111.1	113.9	101.7
1971	77.2	74.8	76.6	99.2	102.4	104.5	95.4
1972	83.7	81.3	84.7	101.2	104.2	107.2	93.4
1973	84.6	82.2	85.0	100.5	103.4	106.6	92.2
1974	89.8	87.0	85.7	95.4	98.5	100.4	92.2
1975	89.9	87.5	76.6	85.2	87.5	87.7	86.9
1976	93.9	92.5	85.7	91.3	92.8	93.7	89.0
1977	91.2	87.9	89.7	98.4	102.0	104.2	94.2
1978	95.1	92.0	95.9	100.8	104.2	106.0	97.5
1979	95.1	93.3	95.8	100.7	102.7	105.0	94.2
1980	92.6	89.8	93.4	100.9	104.0	105.7	97.5
1981	95.4	93.4	94.4	99.0	101.1	103.4	93.4
1982	95.1	91.8	90.7	95.4	98.8	99.5	96.3
1983	96.3	94.1	90.7	94.2	96.4	96.7	95.5
1984	95.5	94.5	96.6	101.1	102.2	102.3	101.9
1985	93.5	91.9	90.4	96.7	98.4	99.5	94.5
1986	96.3	96.3	96.3	100.0	100.0	101.3	95.5
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	100.1	99.9	102.5	102.4	102.6	102.9	101.0
1989	101.7	100.9	101.3	99.6	100.4	99.8	103.1
1990	105.2	103.7	102.5	97.4	98.8	96.0	102.1
1991	104.4	103.4	100.3	96.1	97.0	97.3	95.9
1992 <sup>1</sup>	104.6	104.5	102.0	97.5	97.6	96.0	95.9
Average annual percent change:							
1968-92	1.4	1.5	.8	-.6	-.6	-.7	-.3
1973-91	1.2	1.3	.9	-.2	-.4	-.5	.2

<sup>1</sup> Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Paperboard Packaging Council, the Bureau of the Census, and the Bureau of Labor Statistics. Employment and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

**Table 60. Paper and plastic bags (SIC 2673, 2674): Indexes of output per hour and related measures, 1967-91**  
(1967 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1967	66.4	66.2	57.1	66.0	66.2	65.7	66.4
1968	68.9	71.5	63.0	90.1	68.1	67.6	90.4
1969	68.6	69.2	63.7	92.9	92.1	90.7	99.1
1970	66.6	65.7	65.0	97.6	99.0	99.5	97.1
1971	75.8	74.7	69.9	92.2	93.6	94.0	92.3
1972	78.0	77.7	70.3	90.1	90.5	90.0	93.3
1973	82.7	81.9	75.4	91.2	92.1	91.2	96.1
1974	86.5	85.4	82.0	94.8	96.0	97.7	89.5
1975	87.6	81.3	73.7	84.1	90.7	91.0	90.4
1976	88.3	84.6	79.9	90.5	94.4	94.5	94.4
1977	87.9	85.9	77.9	88.5	90.7	89.7	95.2
1978	88.0	87.2	80.3	91.3	92.1	91.2	96.1
1979	86.0	83.8	82.0	95.3	97.9	97.1	102.0
1980	83.2	81.3	83.0	99.8	102.1	100.8	107.6
1981	81.1	80.3	81.7	100.7	101.8	100.1	109.7
1982	83.7	81.0	75.7	90.4	93.5	92.2	99.0
1983	91.1	89.5	83.8	92.0	93.6	92.2	100.0
1984	94.1	92.3	84.4	89.7	91.4	89.9	96.0
1985	95.9	94.9	85.5	89.2	90.1	89.0	94.3
1986	101.0	101.9	94.7	93.8	92.9	90.8	101.9
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	97.7	96.8	96.2	100.5	99.4	101.2	92.3
1989	94.1	94.4	96.5	104.7	104.3	105.8	96.1
1990	92.4	94.2	95.2	103.0	101.1	102.3	96.2
1991	89.6	90.8	90.2	100.7	99.3	100.5	94.2
Average annual percent change:							
1954-91	1.7	1.7	3.0	1.3	1.3	1.2	1.6
1973-91	.4	.6	1.0	.6	.4	.5	-.1

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

**Table 61. Industrial inorganic chemicals (SIC 281): Indexes of output per hour and related measures, 1972-91**  
(1967 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1972	78.3	77.0	97.2	124.1	126.3	142.1	102.6
1973	82.2	81.9	103.5	125.9	126.3	145.3	98.0
1974	83.9	83.6	112.9	134.6	135.1	152.8	106.4
1975	69.6	66.4	93.3	134.1	136.5	146.9	121.1
1976	76.1	75.2	102.0	134.1	135.7	144.5	122.3
1977	80.6	79.6	107.4	133.3	134.6	146.1	117.3
1978	82.6	82.0	113.3	137.2	138.1	149.3	121.6
1979	90.3	90.3	116.4	128.9	128.9	139.4	113.1
1980	75.9	74.3	102.9	136.6	138.5	145.4	127.9
1981	73.5	72.6	100.5	136.7	138.5	142.6	132.0
1982	69.5	67.8	86.7	127.7	130.9	134.0	126.1
1983	77.2	75.1	94.0	121.8	125.1	128.3	120.7
1984	87.3	86.6	103.9	119.0	120.0	123.6	114.6
1985	86.1	86.2	103.1	119.6	119.6	121.8	116.4
1986	91.2	91.7	101.2	111.0	110.3	110.2	110.6
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	96.1	100.5	104.0	106.2	103.5	105.0	101.3
1989	90.6	90.6	95.3	105.2	104.9	107.6	100.4
1990	90.3	92.1	100.1	110.6	106.7	110.6	105.9
1991	85.4	88.5	99.3	116.3	112.2	113.4	110.5
Average annual percent change:							
1972-91	.5	.7	.1	-.3	-.6	-1.2	.4
1973-91	.2	.4	-.2	-.4	-.7	-1.4	.7

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

**Table 62. Alkalies and chlorine (SIC 2812): Indexes of output per hour and related measures, 1972-91**  
(1987 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1972	49.5	47.6	126.7	255.9	266.0	274.3	246.8
1973	49.4	48.5	128.9	261.0	266.0	276.9	240.0
1974	54.9	54.1	148.2	270.0	274.0	282.6	253.4
1975	43.5	42.9	121.1	278.1	262.1	279.9	266.8
1976	47.5	46.7	124.3	261.9	266.0	251.3	300.0
1977	48.4	46.9	110.8	229.0	236.0	226.6	253.4
1978	51.6	50.8	109.8	212.9	216.0	208.3	233.3
1979	52.2	50.4	75.7	144.9	150.2	142.9	166.7
1980	55.9	50.5	74.8	133.9	148.0	142.9	160.1
1981	48.1	45.1	67.8	147.0	150.2	139.9	173.3
1982	48.8	46.5	70.7	144.9	152.0	142.9	173.3
1983	62.8	61.4	89.7	142.9	146.0	137.0	166.7
1984	73.0	73.0	106.1	148.0	148.0	145.7	153.4
1985	75.1	72.8	119.4	159.0	164.0	160.0	173.3
1986	101.6	96.6	132.1	130.0	134.0	126.6	146.6
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	101.6	103.2	134.1	132.0	130.0	125.7	140.0
1989	93.4	96.3	125.2	134.0	130.0	131.4	126.7
1990	90.7	92.7	126.1	139.0	136.0	134.3	140.0
1991	82.6	83.7	125.6	152.0	150.0	148.6	153.3
Average annual percent change:							
1972-91	2.7	3.0	.0	-2.7	-3.0	-3.2	-2.5
1973-91	2.9	3.1	-.1	-3.0	-3.1	-3.4	-2.5

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

**Table 63. Inorganic pigments (SIC 2816): Indexes of output per hour and related measures, 1972-91**  
(1987 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1972	75.4	75.5	116.5	154.6	154.3	176.5	118.7
1973	76.3	76.8	125.4	164.4	159.1	186.4	112.5
1974	76.8	79.0	148.5	193.3	188.0	215.7	143.6
1975	69.4	69.9	104.4	150.5	149.4	162.8	126.2
1976	67.2	67.3	104.7	155.9	155.5	166.8	134.4
1977	66.5	66.9	96.0	144.3	143.5	156.8	122.0
1978	69.8	70.2	102.4	146.8	145.9	160.8	122.0
1979	68.9	70.8	96.5	138.0	136.3	149.2	115.7
1980	68.0	67.7	97.2	143.0	143.5	147.2	137.6
1981	69.9	68.8	97.8	140.0	142.1	145.2	137.6
1982	64.3	62.3	84.1	130.7	135.0	133.3	137.6
1983	71.2	70.6	91.8	128.9	130.1	129.5	131.4
1984	84.4	82.9	94.6	112.3	114.3	117.6	109.4
1985	87.0	85.5	99.9	114.8	116.9	117.6	115.7
1986	90.7	90.8	99.6	109.8	109.7	109.9	109.4
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	101.7	104.2	111.7	109.8	107.2	103.9	112.5
1989	106.2	102.6	107.5	101.2	104.8	100.0	112.5
1990	101.1	103.6	106.1	104.9	102.4	103.9	100.0
1991	95.3	98.2	99.4	104.3	101.2	100.0	103.1
Average annual percent change:							
1972-91	1.2	1.4	-.8	-2.1	-2.2	-2.9	-.7
1973-91	1.2	1.2	-1.3	-2.5	-2.5	-3.5	-.5

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

**Table 64. Industrial inorganic chemicals, not elsewhere classified (SIC 2819 part): Indexes of output per hour and related measures, 1972-91**  
(1987 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1972	82.2	81.2	84.2	102.4	103.7	115.9	84.7
1973	87.3	86.2	90.7	103.9	105.2	116.2	88.0
1974	90.3	89.3	99.8	110.5	111.7	123.4	94.0
1975	74.3	72.4	87.2	117.3	120.4	126.1	111.3
1976	83.1	81.7	99.7	120.0	122.1	127.1	114.7
1977	86.6	87.7	112.4	126.9	128.1	136.4	115.3
1978	89.9	89.0	120.1	133.6	134.9	143.0	122.7
1979	101.5	102.0	135.2	133.2	132.6	140.4	120.7
1980	79.9	78.9	113.6	142.2	144.0	148.2	138.0
1981	79.1	78.3	111.4	140.9	142.2	143.8	140.0
1982	71.5	69.3	94.0	131.4	135.7	137.4	133.3
1983	77.9	74.8	96.4	123.8	128.9	131.7	124.7
1984	86.6	87.6	107.0	120.8	122.1	123.6	120.0
1985	87.4	87.6	102.8	117.6	117.4	118.4	116.0
1986	88.9	90.2	97.4	109.6	108.0	109.1	106.7
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	92.7	98.4	98.4	106.1	100.0	101.3	98.0
1989	85.9	86.0	87.4	101.8	101.6	104.3	97.3
1990	86.5	88.6	93.9	106.6	106.0	106.9	104.7
1991	81.3	85.2	93.2	114.6	109.4	109.4	109.3
Average annual percent change:							
1972-91	-.1	.3	.5	.6	.3	-.3	1.4
1973-91	-.4	-.1	.2	.5	.2	-.3	1.2

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

**Table 65. Synthetic fibers (SIC 2823, 2824): Indexes of output per hour and related measures, 1967-92**  
(1987 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1967	28.6	27.8	47.6	166.4	171.5	169.4	178.5
1968	33.1	32.6	60.5	182.7	185.5	187.2	180.1
1969	33.4	32.7	62.7	188.0	191.6	192.7	188.4
1970	34.2	33.0	61.8	180.6	187.1	185.9	191.7
1971	40.2	38.6	71.3	177.3	183.9	185.5	178.5
1972	46.4	45.3	83.2	179.5	183.8	186.8	173.8
1973	50.5	49.7	94.1	186.3	189.5	194.6	175.5
1974	49.5	47.7	93.2	188.4	195.2	196.8	190.6
1975	53.7	50.7	84.0	156.4	165.8	161.8	178.5
1976	57.0	53.7	88.8	155.9	165.5	161.8	177.7
1977	63.4	60.6	97.6	154.0	161.0	160.2	183.9
1978	66.9	64.1	102.7	153.6	160.1	159.9	160.9
1979	72.9	70.3	110.4	151.4	157.0	157.5	155.9
1980	73.4	69.8	101.5	138.3	145.4	143.4	152.2
1981	76.8	72.9	101.9	132.6	139.8	137.5	147.1
1982	65.9	61.1	81.4	123.5	133.2	128.0	148.6
1983	79.9	75.3	94.0	117.7	124.8	121.9	133.4
1984	79.7	76.8	92.6	116.2	120.5	118.3	127.6
1985	86.2	83.2	93.9	108.9	112.8	109.2	123.2
1986	92.7	90.1	96.7	104.3	107.3	106.1	110.8
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	104.6	104.1	104.3	99.7	100.2	100.5	99.3
1989	102.3	100.6	104.5	102.2	103.9	104.3	102.9
1990	99.1	98.0	101.3	102.2	103.4	102.9	105.1
1991	101.9	100.2	102.9	101.0	102.7	101.4	106.5
1992 <sup>1</sup>	106.3	106.8	106.6	98.4	98.0	87.9	129.0
Average annual percent change:							
1967-92	5.0	5.1	4.4	-.6	-.7	-1.0	.2
1973-91	4.0	4.0	.5	-3.3	-3.3	-3.6	-2.7

<sup>1</sup> Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Fiber Economics Bureau, Inc. and the Bureau of the Census. Employment and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.



**Table 66. Soaps and detergents (SIC 2841): indexes of output per hour and related measures, 1967-91**  
(1987 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1967	68.5	66.7	57.9	84.5	86.8	93.5	75.5
1968	69.3	67.4	61.4	88.6	91.1	96.8	81.6
1969	69.3	67.7	63.7	91.9	94.1	97.8	87.7
1970	72.5	70.5	66.8	92.2	94.8	97.1	90.8
1971	74.4	71.5	64.7	87.0	90.5	92.1	87.7
1972	82.3	80.7	73.0	88.7	90.5	92.8	86.5
1973	87.2	85.9	78.1	89.6	90.9	92.4	88.3
1974	90.4	89.0	79.5	87.9	89.3	91.7	85.3
1975	84.0	82.8	71.9	85.6	86.8	89.5	82.2
1976	86.4	85.7	75.9	87.8	88.6	89.5	87.1
1977	86.5	85.7	77.9	90.1	90.9	90.6	91.4
1978	91.2	90.9	84.3	92.4	92.7	94.6	89.6
1979	90.5	89.9	85.2	94.1	94.8	97.1	90.8
1980	94.7	92.9	91.0	96.1	96.0	100.0	94.5
1981	92.8	90.9	91.5	96.6	100.7	104.7	93.9
1982	87.2	86.2	85.0	97.5	98.6	102.2	92.8
1983	84.9	84.8	81.7	96.2	96.4	96.9	92.0
1984	89.1	90.1	84.2	94.5	93.4	96.4	88.3
1985	91.0	91.5	86.9	95.5	95.0	96.0	93.3
1986	92.6	93.5	90.7	96.0	97.0	96.2	95.1
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	102.7	102.1	101.9	99.2	99.8	98.2	102.5
1989	109.9	107.9	105.4	95.9	97.7	97.1	98.8
1990	129.7	127.2	123.1	94.9	96.8	96.9	93.3
1991	129.8	126.2	122.4	94.3	97.0	96.6	94.5
Average annual percent change:							
1958-91	2.7	2.7	3.6	.9	.9	.7	1.2
1973-91	2.2	2.2	2.5	.3	.4	.4	.4

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of the Census and the Bureau of Labor Statistics. Employment and hours based on data from the Bureau of Labor Statistics.

**Table 67. Cosmetics and other toiletries (SIC 2844): indexes of output per hour and related measures, 1967-91**  
(1987 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1967	63.0	62.9	40.9	64.9	65.0	56.6	84.3
1968	68.0	67.6	47.2	69.4	69.8	61.5	88.7
1969	65.2	65.2	48.9	75.0	75.0	65.8	96.1
1970	66.1	66.8	52.7	79.4	78.9	65.6	109.3
1971	73.8	73.5	53.7	72.8	73.1	58.3	106.9
1972	83.1	82.9	61.4	73.9	74.1	60.3	105.9
1973	87.9	87.8	66.9	76.1	76.2	60.5	112.3
1974	92.3	92.7	69.6	75.4	75.1	64.3	100.0
1975	94.7	94.9	69.1	73.0	72.8	63.5	94.1
1976	95.1	95.4	75.4	79.3	79.0	69.9	100.0
1977	100.6	100.0	78.9	78.4	78.9	69.9	99.5
1978	100.6	99.2	82.9	82.4	83.6	75.0	103.4
1979	94.7	93.6	79.8	84.3	85.3	75.2	108.3
1980	84.2	84.5	71.9	85.4	85.1	77.1	103.4
1981	76.7	76.5	71.6	93.3	93.6	88.9	104.4
1982	84.5	84.3	78.1	92.4	92.6	87.8	103.4
1983	87.2	88.0	81.8	93.8	93.0	88.2	103.9
1984	86.5	86.6	85.5	96.8	96.7	96.2	104.4
1985	88.9	88.3	87.4	98.3	99.0	96.6	104.4
1986	96.4	95.6	91.2	94.6	95.4	94.2	98.0
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	104.3	101.8	109.3	104.8	107.4	107.7	106.9
1989	101.4	99.5	106.4	106.9	106.9	105.6	116.7
1990	100.3	100.6	107.3	107.0	106.7	99.4	123.5
1991	102.5	103.2	104.5	102.0	101.3	92.9	120.6
Average annual percent change:							
1958-91	2.9	2.9	5.5	2.5	2.5	2.6	2.5
1973-91	.9	.9	2.5	1.6	1.6	2.4	.4

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of the Census and the Bureau of Labor Statistics. Employment and hours based on data from the Bureau of Labor Statistics.

**Table 68. Paints and allied products (SIC 2851): Indexes of output per hour and related measures, 1967-92**  
(1967 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1967	57.9	58.4	67.8	117.1	116.0	122.9	108.5
1968	63.6	64.6	73.7	115.8	114.0	121.6	106.1
1969	66.0	66.3	77.6	117.6	117.0	126.2	106.9
1970	58.8	59.0	73.8	125.5	125.1	134.4	114.8
1971	66.0	65.5	78.1	118.3	119.2	126.2	111.5
1972	69.2	69.9	83.5	120.7	119.5	127.9	110.4
1973	64.6	64.0	80.4	124.4	125.7	138.1	112.3
1974	71.0	71.8	84.4	118.8	117.6	123.7	111.2
1975	74.1	74.2	80.6	108.8	108.6	110.0	107.1
1976	76.3	77.1	84.4	110.6	109.5	112.9	106.0
1977	78.6	78.9	87.9	111.8	111.4	116.7	105.6
1978	82.0	82.0	91.5	111.6	111.6	116.3	106.3
1979	82.4	81.9	93.6	113.6	114.3	122.9	105.2
1980	79.1	78.2	86.3	111.6	112.9	115.5	110.0
1981	78.5	78.0	84.9	108.2	108.9	111.2	106.3
1982	83.7	82.7	81.0	96.8	98.0	97.6	98.5
1983	89.1	88.2	85.8	96.3	97.3	97.2	97.0
1984	95.1	94.3	94.5	99.4	100.2	102.7	97.4
1985	98.2	97.4	96.1	99.9	100.7	102.4	98.5
1986	99.3	99.0	100.2	100.9	101.2	101.8	100.4
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	103.2	103.5	104.6	101.4	101.1	102.0	100.3
1989	106.6	106.8	106.5	99.9	99.7	102.6	96.9
1990	111.1	111.5	109.0	98.1	97.8	100.7	95.0
1991	110.8	111.0	103.6	93.5	93.3	96.7	89.9
1992 <sup>1</sup>	113.8	113.9	106.4	93.5	93.4	99.0	88.1
Average annual percent change:							
1968-92	2.9	2.8	2.5	-.3	-.3	-.4	-.2
1973-91	3.0	3.1	1.4	-1.6	-1.6	-2.0	-1.2

<sup>1</sup> Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

**Table 69. Industrial organic chemicals, not elsewhere classified (SIC 2869): Indexes of output per hour and related measures, 1967-92**  
(1967 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1967	42.9	42.5	43.1	100.5	101.4	115.5	82.6
1968	44.3	44.4	46.8	105.7	105.4	117.7	88.4
1969	47.1	47.6	51.6	109.6	108.5	121.5	90.7
1970	49.9	49.6	55.1	110.5	111.2	122.8	95.5
1971	55.3	54.5	58.3	105.4	106.9	118.0	92.0
1972	62.1	60.8	66.5	107.1	109.3	119.2	95.7
1973	68.8	68.7	75.4	109.6	109.8	122.2	92.7
1974	78.2	78.4	85.8	109.7	109.4	121.4	93.1
1975	64.9	63.7	71.3	109.8	111.9	120.0	101.3
1976	71.1	70.3	82.0	115.3	116.6	127.2	102.6
1977	76.2	75.7	90.7	119.0	119.8	130.8	105.1
1978	78.3	77.9	94.7	121.0	121.5	130.0	110.2
1979	86.4	86.2	105.9	122.5	122.9	132.9	109.6
1980	75.4	74.2	92.9	123.2	125.2	130.9	117.1
1981	79.2	78.8	94.3	119.0	119.6	124.3	113.1
1982	86.4	84.9	77.4	116.6	119.3	120.2	118.2
1983	80.1	78.7	89.6	111.9	113.8	116.2	110.6
1984	86.7	85.5	94.4	108.9	110.4	112.3	107.8
1985	85.7	84.4	86.9	101.4	103.0	104.1	101.4
1986	90.7	90.5	83.7	92.3	92.5	94.8	89.4
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	107.8	106.2	106.0	98.3	98.0	105.4	89.4
1989	105.5	106.6	109.8	104.1	103.0	109.4	95.4
1990	98.0	99.4	107.3	109.5	107.9	108.0	107.8
1991	91.8	93.1	101.4	110.5	108.9	101.0	118.3
1992 <sup>1</sup>	90.4	91.1	99.4	109.9	109.1	95.0	125.7
Average annual percent change:							
1963-92	3.3	3.3	4.0	.7	.6	-.3	1.9
1973-91	1.6	1.7	1.7	.0	.0	-1.1	1.4

<sup>1</sup> Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

**Table 70. Agricultural chemicals (SIC 287): Indexes of output per hour and related measures, 1972-91**  
(1987 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1972	60.9	60.7	72.2	118.5	119.0	126.6	106.9
1973	70.3	70.8	82.3	117.1	116.2	125.1	102.4
1974	77.7	78.0	96.2	123.8	123.4	135.7	104.4
1975	70.3	70.2	90.9	129.3	129.4	139.4	113.7
1976	74.8	75.3	97.2	129.9	129.1	137.0	117.0
1977	81.1	80.6	107.8	133.0	133.8	145.1	116.4
1978	82.2	81.5	107.8	131.2	132.3	140.9	118.8
1979	82.7	83.5	110.0	133.0	131.8	143.1	114.3
1980	78.7	81.0	111.5	141.6	137.7	146.1	124.5
1981	79.1	81.5	112.2	141.8	137.7	146.1	124.5
1982	76.5	75.4	95.4	124.7	126.6	129.9	121.4
1983	85.9	83.9	95.6	111.3	113.9	117.5	106.0
1984	97.0	95.8	106.0	111.3	112.7	118.1	104.4
1985	93.6	91.7	102.2	109.2	111.4	115.6	105.0
1986	87.9	87.7	89.0	101.2	101.5	103.1	96.7
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	102.0	103.4	105.2	103.1	101.7	102.9	100.0
1989	101.8	103.6	106.7	104.8	103.0	105.3	99.4
1990	105.9	109.0	115.8	109.3	106.2	108.4	101.3
1991	111.6	116.2	117.6	105.4	101.2	103.7	97.5
Average annual percent change:							
1972-91	3.2	3.5	2.6	-6	-6	-1.0	-5
1973-91	2.6	2.8	2.0	-6	-6	-1.0	-3

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

**Table 71. Nitrogenous fertilizers (SIC 2873): Indexes of output per hour and related measures, 1972-91**  
(1987 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1972	52.3	53.1	67.3	128.8	126.8	135.7	114.0
1973	58.5	60.3	75.0	128.2	124.3	140.1	100.0
1974	62.9	63.1	86.1	136.9	136.5	158.0	103.5
1975	60.0	61.0	87.3	145.6	143.1	158.0	120.8
1976	60.4	63.5	96.8	160.3	152.5	164.7	134.8
1977	63.2	64.2	104.8	165.8	163.3	175.8	145.0
1978	69.2	68.8	112.4	162.4	163.3	166.8	156.7
1979	70.0	69.9	104.6	149.5	149.7	158.0	137.9
1980	78.6	78.5	116.6	148.4	148.6	160.1	131.1
1981	76.8	79.5	114.8	149.5	144.4	151.3	134.8
1982	72.4	72.4	101.6	140.3	140.4	140.1	141.4
1983	81.1	80.0	94.2	116.1	117.7	113.3	124.2
1984	96.7	95.1	109.1	112.8	114.7	115.4	114.0
1985	95.2	92.2	108.5	114.0	117.7	120.0	114.0
1986	85.0	86.3	77.0	90.6	89.2	88.9	89.7
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	101.6	103.1	100.3	96.7	97.3	97.8	96.6
1989	102.1	104.2	98.6	96.6	94.6	97.8	89.7
1990	107.7	109.1	110.6	102.7	101.4	106.7	93.1
1991	107.4	109.7	108.2	100.7	96.6	104.4	89.7
Average annual percent change:							
1972-91	3.9	3.9	2.5	-1.3	-1.3	-1.4	-1.3
1973-91	3.4	3.4	2.1	-1.3	-1.3	-1.6	-6

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

**Table 72. Phosphatic fertilizers (SIC 2874): Indexes of output per hour and related measures, 1972-91**  
(1987 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1972	57.3	57.4	92.0	160.5	160.3	177.1	128.0
1973	69.7	70.7	99.6	143.0	140.9	157.4	109.3
1974	76.9	78.5	125.0	162.5	158.2	182.0	115.5
1975	64.3	63.9	110.1	171.3	172.3	191.7	134.3
1976	73.1	72.5	116.2	158.9	160.3	175.4	131.2
1977	78.5	78.7	121.9	155.2	154.9	185.7	134.3
1978	76.4	77.2	120.5	157.8	156.0	167.2	134.3
1979	74.1	75.9	121.7	164.3	160.3	172.2	137.4
1980	73.0	76.4	128.2	175.6	167.8	180.3	143.7
1981	86.3	86.8	115.4	174.1	167.8	177.1	149.9
1982	89.0	87.1	103.2	149.5	153.8	159.0	143.7
1983	84.2	82.7	114.8	136.3	138.8	149.1	118.7
1984	94.4	93.2	130.3	138.0	139.8	145.9	128.0
1985	87.7	85.1	119.0	135.7	139.8	142.6	134.3
1986	90.3	77.9	94.7	117.9	121.5	119.7	125.0
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	92.2	94.5	105.7	114.7	111.8	116.4	103.1
1989	85.3	86.3	100.2	117.4	116.1	121.3	106.3
1990	105.4	110.5	124.8	118.4	112.9	123.0	93.7
1991	113.1	117.7	130.4	115.3	110.8	119.7	93.7
Average annual percent change:							
1972-91	3.6	3.9	1.9	-1.7	-1.9	-2.0	-1.6
1973-91	2.7	2.9	1.5	-1.2	-1.3	-1.5	-0.9

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

**Table 73. Fertilizers, mixing only (SIC 2875): Indexes of output per hour and related measures, 1972-91**  
(1987 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1972	78.3	76.3	116.0	148.2	152.0	153.3	149.9
1973	82.6	81.4	130.3	157.7	160.1	163.9	153.5
1974	93.9	90.4	133.9	142.6	148.1	153.3	139.2
1975	94.6	90.6	134.2	141.8	148.1	151.2	142.7
1976	102.4	99.8	136.5	135.2	138.8	142.5	132.0
1977	96.1	95.9	158.7	161.7	165.5	172.4	153.5
1978	100.7	97.8	142.3	141.3	145.5	148.9	139.2
1979	105.0	107.9	149.8	142.6	138.8	151.2	117.8
1980	88.9	94.2	158.3	178.1	168.1	163.9	175.0
1981	81.8	86.4	138.4	169.2	160.1	157.5	164.2
1982	78.3	77.8	101.7	129.9	130.7	127.7	135.7
1983	90.1	87.4	106.5	120.4	124.2	123.5	125.0
1984	97.2	95.1	107.7	110.8	113.3	117.1	107.1
1985	100.6	98.7	108.0	107.4	109.4	110.7	107.1
1986	93.8	93.2	102.0	108.8	109.4	108.6	110.7
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	102.6	101.9	101.9	99.3	100.0	100.0	100.0
1989	110.8	113.1	96.5	87.1	85.3	87.2	82.1
1990	108.7	113.9	107.9	99.3	94.7	91.5	100.0
1991	109.3	114.9	102.6	93.9	89.3	87.2	92.9
Average annual percent change:							
1972-91	1.8	2.2	-0.8	-2.4	-2.8	-2.9	-2.5
1973-91	1.6	1.9	-1.3	-2.8	-3.2	-3.4	-2.8

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

**Table 74. Agricultural chemicals, not elsewhere classified (SIC 2879): Indexes of output per hour and related measures, 1972-91**  
(1967 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1972	60.8	59.3	44.9	73.8	75.7	74.7	77.2
1973	72.8	71.9	55.8	76.7	77.6	75.8	80.0
1974	79.6	79.6	67.6	84.9	84.9	84.6	85.8
1975	69.9	70.2	62.7	89.7	89.3	89.0	90.0
1976	71.5	71.2	68.1	95.2	95.7	94.6	97.2
1977	87.6	85.2	79.2	90.4	93.0	102.2	81.3
1978	86.3	83.8	82.2	95.2	98.1	106.6	87.2
1979	87.4	85.6	88.8	101.6	103.7	112.3	92.9
1980	77.6	77.0	77.8	100.3	101.1	107.8	92.9
1981	92.6	91.0	97.3	105.1	106.9	117.7	92.9
1982	83.9	81.6	83.6	99.7	102.5	106.6	97.2
1983	85.5	82.5	76.7	89.7	93.0	95.6	90.0
1984	96.9	96.5	91.7	94.6	95.0	101.1	87.2
1985	91.2	90.5	84.2	92.3	93.0	97.9	87.2
1986	91.7	92.4	84.9	92.6	91.9	96.7	85.7
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	108.7	110.0	108.7	100.0	98.8	97.8	100.0
1989	107.8	110.0	118.9	110.3	108.1	107.7	108.8
1990	105.0	106.3	116.8	111.2	109.9	112.1	107.1
1991	113.5	119.3	121.6	107.1	101.9	100.0	104.3
Average annual percent change:							
1972-91	3.3	3.7	5.4	2.0	1.6	1.5	1.6
1973-91	2.5	2.9	4.4	1.9	1.5	1.6	1.5

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

**Table 75. Petroleum refining (SIC 2911): Indexes of output per hour and related measures, 1967-92**  
(1967 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1967	61.1	60.1	77.3	126.6	128.7	126.0	126.7
1968	62.4	61.9	80.1	128.3	129.4	125.7	129.1
1969	64.3	65.6	81.6	126.9	124.3	118.9	128.8
1970	63.9	63.7	82.9	129.8	130.1	125.7	131.7
1971	67.0	66.3	85.3	127.4	128.7	123.9	132.2
1972	73.5	72.6	88.4	120.3	121.7	118.7	120.7
1973	81.2	79.4	93.8	115.5	118.2	114.3	119.8
1974	75.0	74.1	91.9	122.5	124.1	122.0	121.0
1975	77.0	75.0	91.1	118.3	121.4	116.6	124.4
1976	80.6	80.4	98.7	122.5	122.8	118.2	125.8
1977	86.6	85.6	106.0	122.4	123.8	118.1	129.1
1978	87.9	86.5	106.7	123.7	122.8	117.0	128.4
1979	82.3	82.3	107.7	130.8	130.8	121.4	144.7
1980	81.6	81.1	100.6	123.3	124.0	115.9	135.2
1981	72.6	72.8	95.6	131.7	131.4	121.0	147.8
1982	68.9	68.8	90.3	131.1	131.2	118.9	152.4
1983	70.9	70.7	89.4	126.1	126.4	115.0	148.0
1984	78.4	77.5	93.6	119.4	120.7	106.1	146.0
1985	84.3	82.8	93.6	111.0	113.0	102.9	130.6
1986	94.6	94.5	98.9	104.6	104.7	99.8	113.3
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	105.9	106.7	103.1	97.4	96.6	96.9	95.7
1989	110.2	110.8	103.8	94.2	93.7	93.9	93.1
1990	109.9	111.3	104.7	95.3	94.1	94.6	93.1
1991	107.4	107.9	104.8	97.6	97.1	96.9	97.3
1992 <sup>1</sup>	111.6	111.2	107.0	95.9	96.2	97.7	93.1
Average annual percent change:							
1947-92	4.0	3.9	2.5	-1.4	-1.3	-1.5	-7
1973-91	1.6	1.7	.6	-.9	-1.1	-.9	-1.1

<sup>1</sup> Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Energy Information Administration, U.S. Department of Energy; and the Bureau of the Census. Employment and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

**Table 76. Tires and inner tubes (SIC 3011): Indexes of output per hour and related measures, 1967-92**  
(1967 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1967	47.8	48.4	85.7	137.4	141.7	135.7	186.5
1968	51.2	53.3	80.0	156.1	150.0	144.3	175.1
1969	49.5	52.0	81.7	165.1	157.2	151.3	182.0
1970	50.6	50.3	77.3	152.8	153.8	148.0	186.7
1971	54.5	54.3	87.0	159.6	160.3	153.2	189.8
1972	56.5	57.8	94.9	167.9	164.3	158.3	190.6
1973	55.0	54.7	95.9	174.4	175.3	168.0	205.4
1974	54.0	54.4	97.5	180.7	179.1	170.9	214.8
1975	53.1	51.8	84.1	158.4	162.4	152.0	203.8
1976	57.6	52.2	82.9	143.8	158.7	149.8	196.0
1977	57.8	58.3	101.6	175.8	174.3	168.0	200.9
1978	62.3	62.5	98.3	157.9	157.2	154.2	170.3
1979	62.0	60.4	95.3	153.7	157.7	154.2	173.5
1980	59.2	56.1	74.8	126.4	133.3	126.0	164.9
1981	66.3	66.2	80.3	117.6	121.3	118.7	132.8
1982	74.2	70.5	75.8	102.2	107.5	103.8	122.7
1983	79.7	79.9	81.9	102.7	102.5	99.4	114.8
1984	87.1	88.1	94.8	108.8	107.6	107.2	110.2
1985	86.1	84.9	91.3	103.6	107.5	106.3	112.5
1986	92.2	89.8	89.5	97.1	99.7	98.3	105.5
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	104.3	106.1	104.4	100.1	98.4	99.8	94.6
1989	106.4	106.2	106.1	99.7	99.9	104.6	88.0
1990	108.3	106.3	105.4	97.3	99.2	101.5	93.4
1991	109.8	106.2	100.6	91.6	94.7	97.0	88.8
1992 <sup>1</sup>	116.7	118.3	113.8	97.5	96.2	100.5	85.5
Average annual percent change:							
1947-92	3.8	3.8	2.4	-1.4	-1.4	-1.3	-1.6
1973-91	3.9	3.8	.3	-3.5	-3.4	-3.0	-4.6

<sup>1</sup> Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Rubber Manufacturers Association, and the Bureau of the Census. Employment and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

**Table 77. Rubber and plastic hose and belting (SIC 3052): Indexes of output per hour and related measures, 1972-91**  
(1967 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1972	77.9	77.9	106.9	137.3	137.3	136.2	140.7
1973	83.1	80.6	104.5	125.8	129.7	133.3	120.9
1974	89.0	87.6	117.7	132.3	134.4	140.4	119.4
1975	91.3	87.8	103.0	112.8	117.3	117.1	118.0
1976	91.6	86.3	111.2	121.4	128.8	125.4	137.6
1977	87.8	85.4	126.5	144.1	148.2	141.0	166.4
1978	85.7	84.4	138.8	161.9	164.5	154.8	189.0
1979	85.0	83.5	139.2	163.7	166.7	156.7	192.3
1980	78.5	75.3	105.1	133.9	139.6	128.5	167.8
1981	101.4	97.8	113.3	111.7	115.9	121.7	101.3
1982	88.4	81.8	87.8	96.3	107.3	106.6	109.1
1983	96.1	92.7	89.1	90.8	96.1	95.7	96.8
1984	105.3	102.0	108.5	103.0	106.4	109.1	100.0
1985	101.4	97.8	100.3	98.9	102.6	104.2	96.5
1986	102.9	100.8	99.9	97.1	99.1	100.8	95.3
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	107.1	109.8	109.8	102.5	100.0	118.4	89.1
1989	96.5	97.2	100.3	103.9	103.2	122.8	70.2
1990	101.4	101.8	101.0	99.8	99.2	118.4	67.0
1991	93.1	92.3	86.1	92.5	93.3	112.0	61.7
Average annual percent change:							
1972-91	.9	.9	-1.1	-2.1	-2.0	-1.0	-4.2
1973-91	.6	.8	-1.1	-1.7	-1.8	-1.0	-3.7

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.



**Table 78. Miscellaneous plastics products, not elsewhere classified (SIC 308): indexes of output per hour and related measures, 1972-92**  
(1967 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1972	67.1	66.3	36.7	57.7	56.4	59.4	54.2
1973	72.6	71.5	46.8	64.5	65.5	66.9	60.2
1974	66.9	65.0	42.6	63.7	65.5	66.1	62.8
1975	67.0	65.2	37.3	55.7	57.2	56.1	61.2
1976	69.4	68.2	44.3	63.8	65.0	65.0	64.7
1977	77.7	76.5	55.1	70.9	72.0	72.6	69.6
1978	76.2	77.2	61.0	76.0	79.0	79.8	75.7
1979	73.4	72.1	60.0	81.7	83.2	84.0	80.0
1980	74.3	72.5	57.0	76.7	78.6	78.1	80.0
1981	76.4	74.8	60.9	79.7	81.4	81.2	81.5
1982	85.7	82.9	64.1	74.8	77.3	76.5	80.7
1983	83.4	83.4	66.0	81.5	81.5	81.5	81.5
1984	86.1	86.4	76.8	91.5	91.2	92.2	87.6
1985	88.0	87.6	81.7	92.8	93.3	93.7	91.7
1986	89.0	88.9	85.4	96.0	96.1	96.5	94.9
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	96.3	96.3	101.6	103.4	103.4	103.9	101.8
1989	97.2	97.0	103.1	106.1	106.3	106.6	104.9
1990	100.1	99.3	106.2	106.1	106.9	106.9	106.9
1991	100.8	100.4	104.8	104.0	104.4	103.3	108.3
1992 <sup>1</sup>	100.5	100.7	106.3	105.8	105.6	104.7	108.9
Average annual percent change:							
1972-92	2.0	2.1	5.2	3.1	3.0	2.9	3.6
1973-91	1.8	1.9	4.6	2.7	2.6	2.4	3.3

<sup>1</sup> Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of the Census and the Bureau of Labor Statistics. Employment and hours based on data from the Bureau of Labor Statistics.

**Table 79. Footwear (SIC 314): indexes of output per hour and related measures, 1967-92**  
(1967 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1967	90.2	89.2	264.5	293.3	296.4	306.9	224.7
1968	93.5	93.2	291.5	301.1	302.2	312.8	229.1
1969	87.2	85.1	251.2	268.0	295.2	303.8	233.6
1970	93.6	91.7	247.2	264.0	269.6	276.7	222.3
1971	95.5	93.5	233.3	244.3	249.5	254.6	214.6
1972	93.0	93.1	230.6	248.0	247.6	252.7	214.6
1973	91.9	90.7	216.6	235.6	236.7	243.2	209.1
1974	90.4	87.7	199.7	220.9	227.8	230.2	211.3
1975	94.8	91.1	186.5	197.1	204.8	207.8	184.1
1976	95.4	91.8	193.2	202.6	210.4	214.0	184.1
1977	93.4	89.4	183.0	196.0	204.6	207.8	181.9
1978	95.7	90.6	183.2	191.4	202.2	206.7	170.9
1979	93.6	88.9	172.9	184.7	194.5	196.5	170.6
1980	92.5	86.0	167.2	180.7	189.9	191.2	179.9
1981	89.3	86.2	161.6	181.2	187.7	189.5	174.2
1982	89.4	82.9	158.5	159.5	170.6	172.7	157.2
1983	97.0	92.5	147.5	152.0	159.4	161.0	149.4
1984	96.7	92.6	132.0	133.6	142.3	143.0	139.3
1985	100.3	95.7	115.8	115.5	121.0	121.8	116.8
1986	102.2	96.5	103.0	100.8	106.7	106.2	110.1
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	102.3	101.0	99.3	97.1	98.3	97.2	105.1
1989	101.1	100.0	92.1	91.1	92.1	91.3	97.4
1990	92.6	89.8	79.1	85.4	88.1	88.8	95.7
1991	92.8	89.4	71.7	77.3	80.2	79.4	91.5
1992 <sup>1</sup>	93.6	91.8	69.8	74.9	76.0	73.7	90.6
Average annual percent change:							
1967-92	.9	.8	-2.5	-3.3	-3.3	-3.4	-2.0
1973-91	.1	-.1	-6.0	-6.0	-5.9	-6.1	-4.5

<sup>1</sup> Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of the Census. Employment and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

**Table 80. Glass containers (SIC 3221): Indexes of output per hour and related measures, 1967-92**  
(1967 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1967	67.0	66.3	110.8	165.3	162.3	164.9	143.1
1968	70.3	69.9	108.7	154.6	155.5	156.5	146.9
1969	72.6	72.5	126.3	174.0	174.1	176.4	156.7
1970	71.0	71.6	129.8	182.9	180.7	184.2	156.7
1971	72.3	72.6	127.7	176.6	175.8	177.4	162.5
1972	72.1	72.9	129.5	179.6	177.6	179.1	164.5
1973	75.3	74.7	132.8	176.3	177.8	179.1	166.4
1974	80.8	79.8	131.4	162.6	164.6	165.8	154.8
1975	80.1	77.1	131.4	164.0	170.4	171.7	160.7
1976	79.9	80.2	139.2	174.3	173.5	175.3	160.7
1977	81.3	79.7	137.4	168.9	172.4	173.5	162.5
1978	80.9	80.9	143.2	177.0	177.1	178.7	164.5
1979	83.4	82.5	135.9	163.0	164.7	166.0	154.8
1980	85.8	84.9	133.3	155.7	157.0	156.8	156.7
1981	89.7	88.1	130.8	145.9	148.5	148.2	148.9
1982	86.1	85.5	123.0	142.9	143.9	143.9	143.1
1983	85.5	85.1	114.0	133.4	134.0	133.7	135.2
1984	97.3	93.8	110.8	113.9	118.1	117.6	121.5
1985	93.3	94.7	101.6	108.9	107.3	106.9	109.7
1986	98.4	100.1	104.3	106.0	104.2	105.0	98.0
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	101.1	100.7	99.1	98.0	98.4	99.3	91.1
1989	104.8	106.1	100.5	95.9	94.7	95.1	96.7
1990	112.6	114.3	101.3	90.0	88.6	89.1	94.4
1991	114.9	117.6	98.8	86.0	84.0	84.4	90.0
1992 <sup>1</sup>	120.7	125.2	100.7	83.4	80.4	80.4	90.0
Average annual percent change:							
1947-92	1.9	1.9	1.1	-3.9	-4.1	-4.1	-4.1
1973-91	2.4	2.6	-1.6	-3.9	-4.1	-4.1	-4.1

<sup>1</sup> Preliminary.

SOURCE: Output based on data from the Bureau of the Census. Employment and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

**Table 81. Hydraulic cement (SIC 3241): Indexes of output per hour and related measures, 1967-92**  
(1967 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1967	55.3	53.6	91.4	165.4	170.6	180.9	139.2
1968	61.3	60.5	97.5	159.0	161.2	171.8	128.3
1969	62.0	61.9	98.5	158.9	159.3	170.0	126.1
1970	60.8	60.3	95.4	156.9	158.1	167.6	126.3
1971	67.1	66.9	100.7	150.1	150.5	160.1	121.8
1972	66.2	67.7	106.3	155.9	157.1	167.6	124.0
1973	71.6	70.9	110.2	153.9	155.4	165.0	126.1
1974	65.6	64.1	104.1	158.6	162.4	171.8	132.8
1975	60.8	58.3	87.6	144.0	150.3	157.2	126.3
1976	66.5	63.8	93.9	141.3	147.2	153.9	126.1
1977	71.7	69.4	101.1	141.0	145.6	153.1	121.8
1978	72.8	71.9	108.0	148.4	150.3	158.1	126.2
1979	68.9	66.1	106.5	157.6	159.3	169.2	126.3
1980	62.3	60.5	96.3	154.5	159.3	166.8	134.8
1981	65.4	62.6	92.2	141.0	147.2	153.9	126.2
1982	67.6	63.1	81.4	120.5	128.9	131.8	119.6
1983	77.8	74.5	90.2	116.0	121.0	122.8	115.3
1984	89.9	84.3	99.8	111.0	118.4	119.9	113.0
1985	92.1	89.8	99.8	108.4	111.1	109.6	115.3
1986	97.2	97.6	100.7	103.6	103.2	102.8	104.4
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	103.2	104.2	96.2	95.2	94.2	93.1	97.9
1989	110.0	109.8	98.7	89.7	89.9	88.7	93.6
1990	112.3	112.7	96.5	87.7	87.4	86.9	89.4
1991	106.4	106.3	92.5	86.9	87.0	85.6	91.5
1992 <sup>1</sup>	118.2	118.8	99.3	84.0	83.8	83.7	83.0
Average annual percent change:							
1947-92	3.7	3.6	1.5	-2.1	-2.0	-2.3	-1.6
1973-91	2.2	2.3	-1.0	-3.1	-3.2	-3.6	-1.8

<sup>1</sup> Preliminary.

SOURCE: Output based on data from the Bureau of Mines, U.S. Department of the Interior. Employment and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

**Table 82. Structural clay products (SIC 325): Indexes of output per hour and related measures, 1967-92**  
(1967 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1967	57.5	57.0	99.5	173.0	174.7	182.0	148.4
1968	61.2	61.1	106.0	173.1	173.4	177.1	148.0
1969	61.6	61.9	107.2	174.1	173.1	179.5	148.0
1970	64.9	65.2	99.5	153.3	152.5	154.0	148.0
1971	70.6	71.1	103.0	145.9	144.9	145.5	143.6
1972	73.2	73.2	106.7	149.8	149.9	154.6	131.0
1973	75.6	74.9	111.5	147.4	148.8	156.5	119.7
1974	77.3	76.7	116.0	150.0	151.2	156.5	131.0
1975	75.6	73.5	99.1	131.0	134.9	136.1	131.0
1976	76.8	75.8	102.6	130.2	135.3	136.9	129.7
1977	83.0	81.6	106.3	126.0	130.3	133.2	119.7
1978	85.1	84.6	114.0	133.9	134.5	139.3	115.5
1979	79.6	76.9	106.7	136.6	141.3	144.5	129.5
1980	81.0	78.9	96.9	122.1	125.4	124.2	131.0
1981	83.5	81.0	91.4	109.5	112.9	113.2	111.2
1982	85.2	82.5	71.3	83.7	86.4	85.1	91.6
1983	87.6	86.4	83.3	95.1	94.2	92.0	102.7
1984	92.6	91.6	95.7	103.3	104.1	106.6	94.4
1985	93.8	94.0	97.9	104.4	104.1	105.1	100.0
1986	96.2	96.0	105.3	109.5	109.7	109.1	111.3
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	103.6	102.2	100.6	97.3	98.6	98.9	97.2
1989	96.7	97.5	99.5	102.9	102.0	102.9	96.6
1990	100.6	100.0	96.3	97.7	96.1	96.5	97.2
1991	95.1	93.9	96.0	90.4	91.6	90.5	95.8
1992 <sup>1</sup>	96.5	96.3	88.1	88.5	88.7	88.7	88.7
Average annual percent change:							
1968-92	2.5	2.5	.1	-2.3	-2.4	-2.6	-1.5
1973-91	1.3	1.3	-1.4	-2.7	-2.7	-3.0	-1.2

<sup>1</sup> Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

**Table 83. Clay construction products (SIC 3251, 3253, 3259): Indexes of output per hour and related measures, 1967-92**  
(1967 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1967	56.9	56.9	96.3	169.3	169.3	175.1	148.5
1968	61.0	61.2	103.5	169.7	169.1	175.1	144.4
1969	60.3	61.1	101.6	166.4	166.2	172.0	142.7
1970	64.6	65.0	93.3	144.4	143.5	145.3	137.2
1971	72.0	72.8	99.7	136.5	136.9	138.1	131.7
1972	74.3	74.4	107.1	144.2	143.9	149.1	122.2
1973	75.5	74.7	106.9	141.5	143.2	149.6	116.7
1974	74.0	73.6	104.4	141.0	141.9	145.8	126.1
1975	74.4	73.1	86.5	119.0	121.1	122.0	118.7
1976	76.6	75.9	95.3	121.2	125.6	126.7	120.4
1977	83.4	81.5	97.7	117.1	119.9	122.0	111.2
1978	85.3	84.3	103.7	121.5	123.0	127.3	105.7
1979	76.3	74.9	97.7	126.0	130.5	131.6	125.9
1980	78.3	76.9	90.1	115.1	117.2	115.9	124.2
1981	81.2	78.5	81.0	99.6	103.2	102.7	105.7
1982	86.3	84.2	66.6	77.2	79.1	79.1	83.3
1983	84.4	85.5	76.2	92.7	91.5	88.6	103.7
1984	92.2	91.7	91.3	99.0	99.6	101.7	90.7
1985	94.1	94.7	97.1	103.2	102.5	103.5	96.2
1986	95.5	95.6	105.1	110.0	109.9	109.6	111.2
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	104.1	102.7	100.9	96.9	98.2	98.2	96.1
1989	96.6	97.1	97.6	101.2	100.7	101.3	96.1
1990	100.5	99.5	97.0	96.5	97.5	97.8	96.3
1991	94.9	93.1	84.2	86.7	89.4	89.5	94.4
1992 <sup>1</sup>	101.2	100.3	87.9	86.9	87.6	88.2	85.2
Average annual percent change:							
1968-92	2.5	2.6	.5	-2.4	-2.5	-2.6	-1.7
1973-91	1.3	1.2	-1.3	-2.6	-2.5	-2.6	-1.2

<sup>1</sup> Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

**Table 84. Brick and structural clay tile (SIC 3251): Indexes of output per hour and related measures, 1967-92**  
(1967 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1967	87.6	87.2	111.4	164.7	165.7	173.9	131.2
1968	72.2	71.8	117.4	162.5	163.9	172.4	128.1
1969	69.9	70.6	114.4	164.0	162.0	169.3	131.2
1970	78.1	77.1	108.0	139.7	140.4	145.6	118.6
1971	86.2	86.6	119.5	136.6	138.0	141.0	124.8
1972	88.1	88.4	126.4	145.6	145.2	152.3	115.7
1973	86.6	86.0	124.5	143.4	144.7	151.4	115.7
1974	89.0	88.2	124.4	139.7	141.0	147.0	115.7
1975	89.6	87.6	122.9	114.8	117.6	120.3	106.2
1976	96.4	93.3	113.6	111.5	121.8	123.7	112.4
1977	96.3	93.7	115.6	120.0	123.4	126.9	109.3
1978	92.6	90.7	116.0	127.4	130.1	135.9	106.2
1979	82.1	79.6	106.8	133.7	137.9	138.0	137.3
1980	91.6	78.9	96.0	117.3	121.6	117.3	140.6
1981	91.1	77.4	79.2	97.6	102.3	106.7	109.3
1982	85.3	82.6	62.2	72.9	75.3	73.9	81.2
1983	82.5	82.5	76.6	92.9	92.8	87.3	115.6
1984	89.6	88.2	89.8	100.0	101.6	103.7	93.7
1985	96.6	95.9	104.0	107.7	106.4	109.7	103.1
1986	94.9	94.9	109.2	115.1	115.1	114.9	115.6
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	104.7	104.1	96.5	94.1	94.6	94.8	93.7
1989	97.2	97.5	94.6	97.3	97.0	97.0	96.9
1990	95.6	95.7	90.3	93.5	93.4	93.3	93.7
1991	95.6	93.4	78.7	82.3	84.3	83.6	87.5
1992 <sup>1</sup>	102.1	100.7	82.5	80.8	81.9	82.1	81.2
Average annual percent change:							
1968-92	1.9	1.9	-0.8	-2.4	-2.4	-2.6	-1.3
1973-91	5	5	-2.5	-3.0	-3.0	-3.2	-1.5

<sup>1</sup> Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

**Table 85. Ceramic wall and floor tile (SIC 3253): Indexes of output per hour and related measures, 1967-91**  
(1967 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1967	46.7	47.6	53.1	113.7	111.5	110.5	116.6
1968	49.6	50.8	56.6	114.2	111.5	109.1	122.3
1969	49.3	50.0	53.1	107.8	106.2	105.3	111.1
1970	48.6	50.6	48.4	99.5	99.7	92.2	111.1
1971	53.1	54.2	49.0	94.8	93.0	83.2	83.4
1972	56.4	60.6	52.9	89.0	87.3	86.4	83.4
1973	62.0	62.0	53.5	86.3	86.3	86.4	77.8
1974	59.3	59.3	57.4	86.8	86.8	86.2	100.0
1975	60.1	58.8	52.2	86.9	87.3	84.5	100.0
1976	60.0	60.0	55.0	91.6	91.6	91.0	94.6
1977	67.6	67.9	55.8	82.6	82.2	81.9	83.4
1978	77.6	79.7	63.6	82.2	80.0	81.9	72.2
1979	75.2	77.0	70.5	83.8	81.6	83.6	83.4
1980	80.8	82.6	75.8	93.8	91.6	93.6	83.4
1981	84.9	85.5	80.0	94.2	93.6	94.6	89.0
1982	86.4	86.4	68.2	78.9	78.9	79.2	77.8
1983	85.2	89.0	76.8	90.1	86.3	86.4	77.8
1984	87.6	100.0	89.4	91.8	89.4	82.2	77.8
1985	88.9	91.9	84.2	94.7	91.6	93.5	83.3
1986	95.6	96.6	97.6	102.1	101.0	101.3	100.0
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	103.1	99.4	102.6	99.5	103.2	105.2	94.4
1989	97.9	99.3	104.6	106.8	105.3	109.1	88.9
1990	107.2	107.2	110.6	103.2	103.2	106.2	94.4
1991	94.4	94.9	94.9	100.5	100.0	100.0	100.0
Average annual percent change:							
1968-91	3.2	3.2	2.2	-0.9	-1.0	-1.0	-0.6
1973-91	2.4	2.4	3.2	.9	.8	.7	1.4

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

**Table 86. Clay refractories (SIC 3255): indexes of output per hour and related measures, 1967-92**  
(1967 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1967	59.9	58.2	114.5	191.2	196.8	215.1	147.2
1968	61.9	61.3	117.6	189.9	191.9	204.4	158.8
1969	66.9	66.2	134.5	200.9	203.1	217.4	164.8
1970	66.1	67.0	128.5	194.4	191.9	196.1	182.5
1971	65.5	65.4	118.5	181.0	181.1	181.2	182.5
1972	69.6	69.8	122.0	175.3	174.8	181.2	158.8
1973	75.4	76.6	132.8	176.1	173.3	189.5	129.4
1974	86.4	86.6	166.1	192.3	191.9	206.8	147.2
1975	76.8	74.2	144.6	186.2	195.0	204.4	170.7
1976	78.1	75.7	134.7	172.4	177.9	185.3	158.8
1977	80.5	81.8	144.3	179.2	176.5	187.4	147.2
1978	83.3	86.5	159.3	191.2	184.2	196.1	147.2
1979	88.8	83.1	157.0	176.9	189.0	206.6	141.3
1980	88.3	85.2	137.0	155.2	160.8	164.0	152.9
1981	89.5	88.9	137.4	153.6	154.5	164.0	129.4
1982	80.5	77.0	91.5	113.6	118.8	119.2	117.6
1983	97.8	97.5	105.0	107.4	107.7	108.6	106.0
1984	92.9	92.8	114.5	123.3	123.4	129.8	106.0
1985	91.9	91.6	101.6	110.6	110.9	112.8	106.0
1986	99.3	98.3	105.9	106.6	107.7	106.4	111.9
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	101.3	100.5	100.5	99.2	100.0	102.1	94.1
1989	97.3	99.6	107.4	110.4	107.8	110.6	100.0
1990	102.1	103.0	104.6	102.4	101.6	102.1	100.0
1991	96.2	96.9	93.9	97.6	96.9	95.7	100.0
1992 <sup>1</sup>	92.6	94.8	88.9	96.0	93.8	91.5	100.0
Average annual percent change:							
1968-92	2.3	2.5	.3	-1.9	-2.1	-2.5	-.9
1973-91	1.4	1.3	-1.9	-3.2	-3.2	-3.7	-1.4

<sup>1</sup> Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

**Table 87. Concrete products (SIC 3271, 3272): indexes of output per hour and related measures, 1967-92**  
(1967 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1967	76.1	74.9	65.8	86.5	87.9	93.9	72.5
1968	82.1	81.5	71.6	87.2	87.9	93.7	72.9
1969	81.2	82.0	73.8	90.6	89.8	95.6	75.3
1970	79.5	80.3	76.6	96.3	95.4	102.3	77.8
1971	85.0	83.3	81.3	95.7	97.6	103.9	81.7
1972	86.5	84.8	86.7	100.2	102.2	107.8	87.9
1973	89.2	87.7	92.8	104.0	105.8	110.7	93.2
1974	90.5	87.6	83.6	92.4	95.4	100.6	82.8
1975	86.7	84.5	75.8	85.5	89.7	91.8	84.7
1976	91.7	89.1	77.6	84.6	87.1	90.0	80.2
1977	96.5	92.3	83.8	86.8	90.8	93.8	83.0
1978	94.3	90.0	85.3	90.5	94.8	96.1	86.3
1979	89.3	85.8	84.6	94.7	98.6	101.3	91.5
1980	87.2	83.6	76.2	87.4	91.2	91.3	91.5
1981	85.5	81.9	73.5	86.0	89.7	89.7	89.9
1982	87.8	83.5	67.1	76.4	80.4	80.8	79.4
1983	94.2	89.9	71.2	75.6	79.2	79.5	78.2
1984	96.0	92.2	76.6	79.8	83.1	82.8	83.8
1985	97.3	94.0	77.9	80.1	82.9	83.6	81.0
1986	102.5	99.8	85.4	83.3	85.6	86.8	82.2
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	103.0	102.5	105.1	102.0	102.5	101.8	104.7
1989	106.7	106.5	109.6	102.7	102.9	102.2	104.7
1990	105.8	105.4	105.1	99.3	99.7	98.2	103.8
1991	107.5	105.4	95.0	88.4	90.1	87.9	96.2
1992 <sup>1</sup>	109.9	109.0	95.9	87.3	88.0	85.7	94.5
Average annual percent change:							
1947-92	2.7	2.6	3.7	1.0	1.1	.6	3.4
1973-91	1.0	1.0	.1	-.9	-.9	-1.3	.2

<sup>1</sup> Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

**Table 88. Ready-mixed concrete (SIC 3273): Indexes of output per hour and related measures, 1967-92**  
(1987 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees
Index:					
1967	91.2	88.7	68.1	74.7	76.8
1968	93.4	90.4	68.1	72.9	75.3
1969	89.5	89.4	69.0	77.1	77.2
1970	87.0	83.4	65.6	75.4	78.7
1971	93.0	85.7	67.8	72.9	79.1
1972	95.0	91.0	80.4	84.6	88.4
1973	99.0	93.3	83.1	83.9	89.1
1974	95.9	90.4	81.3	84.8	89.9
1975	93.3	85.8	73.6	78.9	85.8
1976	94.5	87.0	73.4	77.7	84.4
1977	95.5	92.0	83.4	87.3	90.7
1978	98.6	94.7	90.3	91.6	95.4
1979	95.6	90.6	91.6	95.8	101.1
1980	89.0	84.0	79.7	89.6	94.9
1981	91.3	86.1	76.2	83.5	88.5
1982	86.5	81.0	68.1	78.7	84.1
1983	89.7	85.9	74.3	82.8	86.5
1984	92.0	90.1	77.5	84.2	86.0
1985	93.2	90.6	78.2	83.9	86.3
1986	95.9	96.9	81.7	85.2	84.3
1987	100.0	100.0	100.0	100.0	100.0
1988	100.3	99.1	98.9	98.6	99.8
1989	101.0	99.4	97.1	96.1	97.7
1990	99.7	98.7	94.5	94.8	95.7
1991	96.1	93.7	84.1	87.5	89.8
1992 <sup>1</sup>	97.9	96.5	85.6	87.6	88.9
Average annual percent change:					
1968-92	.8	.9	1.9	1.1	1.0
1973-91	-2	.0	.1	.2	.0

<sup>1</sup> Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

**Table 89. Steel (SIC 331): Indexes of output per hour and related measures, 1967-92**  
(1987 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1967	56.8	52.3	123.7	217.6	236.7	251.2	191.9
1968	58.7	55.3	131.0	223.0	237.0	249.6	198.0
1969	59.1	55.9	134.2	227.1	240.0	253.3	198.8
1970	57.6	53.1	124.2	215.6	233.7	246.4	194.4
1971	60.4	55.2	118.1	195.6	213.9	224.2	182.1
1972	64.0	59.8	126.7	198.0	211.9	223.2	176.8
1973	70.1	66.9	150.8	215.2	225.3	236.1	182.9
1974	70.0	66.3	150.7	215.2	227.2	240.3	186.6
1975	61.3	55.8	114.1	186.2	204.3	211.1	183.4
1976	65.0	60.2	123.3	189.7	204.8	212.3	181.5
1977	65.7	61.1	126.3	192.3	206.6	213.3	185.8
1978	71.2	67.7	141.5	198.6	208.9	217.8	181.4
1979	70.2	66.4	141.1	200.9	212.6	222.5	182.0
1980	67.5	61.3	117.0	173.3	190.6	195.1	177.4
1981	73.5	66.2	126.6	175.0	188.6	193.1	174.8
1982	59.7	52.7	77.9	130.5	147.7	144.9	156.2
1983	76.7	70.4	89.4	116.5	127.0	126.4	129.0
1984	86.1	81.0	100.8	117.1	124.5	126.6	118.0
1985	91.4	86.6	97.7	106.9	112.8	114.2	108.5
1986	93.3	89.6	91.3	97.9	101.9	102.9	98.8
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	110.3	110.7	114.9	104.2	103.8	106.2	96.2
1989	107.2	106.5	110.8	103.4	104.0	106.1	97.6
1990	110.4	109.7	112.9	102.3	102.9	104.5	98.2
1991	106.3	104.1	101.9	95.9	97.9	98.4	96.3
1992 <sup>1</sup>	116.2	115.3	107.5	92.5	93.2	93.0	93.7
Average annual percent change:							
1947-92	2.4	2.6	.5	-1.9	-2.1	-2.4	-.6
1973-91	2.3	2.5	-2.2	-4.4	-4.5	-4.8	-3.5

<sup>1</sup> Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the American Iron and Steel Institute; the Energy Information Administration, U.S. Department of Energy; and the Bureau of the Census. Employment and hours based on data from the Bureau of Labor Statistics.



**Table 90. Gray and ductile iron foundries (SIC 3321): Indexes of output per hour and related measures, 1967-92**  
(1967 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1967	69.9	69.4	116.1	166.1	167.3	175.6	129.0
1968	74.1	75.5	124.7	166.2	165.1	172.9	127.7
1969	78.0	79.4	136.6	177.8	174.5	183.3	133.9
1970	74.3	72.1	123.3	165.9	171.1	178.0	139.4
1971	79.6	77.2	124.2	156.1	160.6	166.1	135.7
1972	83.9	84.4	141.7	166.9	167.9	173.8	140.1
1973	87.9	88.7	163.9	186.4	184.8	192.6	149.7
1974	90.9	89.8	165.4	182.0	184.1	191.4	150.5
1975	90.3	86.1	144.0	159.4	167.3	171.7	148.5
1976	89.8	87.6	144.6	161.1	165.1	168.7	148.5
1977	93.1	91.5	154.1	165.6	166.5	172.0	151.6
1978	95.0	92.8	168.0	176.6	181.0	185.1	161.4
1979	90.1	86.8	160.1	177.7	184.4	126.9	173.6
1980	84.5	79.4	126.1	149.2	156.9	157.0	166.4
1981	86.3	81.0	126.4	146.5	156.0	155.3	158.5
1982	87.2	77.4	91.4	104.8	118.1	115.2	131.6
1983	91.1	85.7	95.3	104.6	111.2	110.3	117.3
1984	96.6	96.2	114.9	116.5	119.4	119.5	119.4
1985	96.1	94.1	101.2	105.3	107.6	106.8	111.1
1986	96.7	96.1	94.7	95.9	96.5	97.1	104.9
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	107.6	109.5	114.0	105.9	104.1	104.9	100.7
1989	103.5	103.3	106.6	103.0	103.2	104.3	96.7
1990	103.7	102.7	101.8	96.2	99.1	99.4	96.0
1991	99.0	96.9	91.3	92.2	94.2	93.6	96.7
1992 <sup>1</sup>	104.5	105.4	97.4	93.2	92.4	92.4	92.2
Average annual percent change:							
1954-92	1.7	1.9	.4	-1.3	-1.5	-1.7	-.4
1973-91	.7	.5	-3.2	-3.6	-3.7	-3.9	-2.4

<sup>1</sup> Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

**Table 91. Steel foundries (SIC 3324, 3325): Indexes of output per hour and related measures, 1967-92**  
(1967 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1967	97.3	99.6	159.5	163.9	160.2	171.6	119.5
1968	94.8	96.0	148.1	156.2	154.2	163.4	121.5
1969	97.1	99.5	159.5	164.2	160.3	171.5	122.6
1970	94.3	94.6	133.8	141.9	141.4	150.1	111.4
1971	96.7	97.8	126.3	130.0	131.2	136.1	114.4
1972	104.6	103.3	136.6	132.2	134.2	140.6	111.4
1973	106.1	106.8	150.0	141.4	140.4	148.8	112.4
1974	117.0	116.4	179.2	153.2	153.9	164.5	116.4
1975	111.8	112.0	169.0	151.1	150.9	159.1	121.5
1976	110.1	108.5	157.6	143.1	145.3	150.8	125.7
1977	104.1	103.9	157.3	151.1	151.4	156.2	134.0
1978	102.4	101.8	163.2	159.4	160.6	167.6	135.1
1979	104.7	105.4	167.7	179.2	176.0	186.6	140.2
1980	103.9	101.6	161.3	174.5	178.4	185.7	152.5
1981	95.4	93.0	150.0	157.2	161.3	165.4	147.4
1982	92.5	85.9	106.8	115.4	121.3	122.4	130.9
1983	93.5	89.8	84.4	90.3	94.0	90.4	106.2
1984	102.8	102.9	100.5	97.8	97.7	96.8	93.8
1985	99.5	100.2	95.8	96.3	95.6	95.2	96.9
1986	104.3	102.9	91.3	87.5	88.7	87.2	93.8
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	95.9	97.9	103.4	107.8	105.6	106.7	94.8
1989	96.4	97.8	108.2	112.2	110.6	113.4	101.0
1990	95.8	97.2	104.6	109.2	107.6	109.3	102.1
1991	93.3	95.6	99.8	107.0	104.4	104.6	103.1
1992 <sup>1</sup>	100.3	103.8	101.4	101.1	97.7	96.2	95.9
Average annual percent change:							
1954-92	.7	.9	.2	-.5	-.7	-.9	.0
1973-91	-.7	-.6	-2.2	-1.5	-1.6	-1.9	-.5

<sup>1</sup> Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

**Table 92. Steel foundries, not elsewhere classified (SIC 3325): Indexes of output per hour and related measures, 1972-92**  
(1967 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1972	95.5	94.4	192.5	201.5	203.9	215.1	164.1
1973	96.3	97.3	208.5	216.6	214.3	226.8	170.1
1974	106.8	106.4	248.3	226.2	229.1	244.1	176.0
1975	102.8	103.6	247.3	240.6	238.8	251.3	194.0
1976	99.7	98.4	227.0	227.7	230.6	238.9	200.0
1977	95.4	95.3	226.0	239.0	239.3	246.8	212.1
1978	94.1	93.3	233.4	248.0	250.2	261.1	212.1
1979	95.8	96.3	259.4	270.7	269.4	286.8	206.0
1980	95.2	92.0	244.1	256.4	265.4	277.0	224.0
1981	85.9	82.9	195.1	227.2	235.4	243.0	206.0
1982	84.3	76.4	123.1	146.1	161.1	156.7	170.0
1983	86.1	81.4	90.3	104.9	110.9	106.1	126.0
1984	98.8	98.5	107.6	108.9	109.2	110.1	106.0
1985	96.4	94.9	94.5	98.0	99.6	99.4	100.0
1986	99.4	97.0	83.4	83.9	86.0	85.5	86.0
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	102.1	105.5	114.3	111.9	106.3	111.7	96.0
1989	102.9	104.7	124.8	121.3	119.2	122.3	106.0
1990	100.8	102.2	119.2	118.3	116.6	120.1	104.0
1991	100.7	102.3	114.4	113.6	111.8	113.4	106.0
1992 <sup>1</sup>	110.7	114.1	118.1	106.7	103.5	105.0	96.0
Average annual percent change:							
1972-92	.7	1.0	-2.4	-3.1	-3.3	-3.5	-2.5
1973-91	.2	.3	-3.3	-3.5	-3.6	-3.8	-2.6

<sup>1</sup> Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

**Table 93. Primary copper (SIC 3331): Indexes of output per hour and related measures, 1967-92**  
(1967 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1967	25.0	24.7	87.1	348.1	352.1	353.3	342.7
1968	29.9	29.8	124.6	417.2	418.7	445.8	314.1
1969	29.9	30.1	156.3	522.1	518.9	561.0	357.0
1970	28.9	29.6	161.6	559.1	546.3	579.6	413.6
1971	29.7	29.3	146.8	494.7	500.5	517.9	426.4
1972	31.5	31.4	163.7	519.1	522.1	553.3	399.8
1973	32.8	33.0	170.4	519.1	515.7	542.0	413.6
1974	29.5	29.2	155.1	526.5	531.1	537.9	499.3
1975	30.1	29.9	140.4	467.0	470.0	464.4	485.4
1976	34.5	34.4	149.4	432.8	433.9	434.0	426.4
1977	36.3	35.4	140.7	388.1	397.2	407.0	357.0
1978	36.0	35.9	141.6	392.8	394.0	407.0	342.7
1979	41.1	40.9	147.6	359.1	360.8	376.4	299.8
1980	36.1	35.9	112.2	294.2	312.2	311.1	314.1
1981	45.0	44.9	145.7	323.5	324.7	326.5	314.1
1982	46.6	47.0	108.3	232.6	230.4	226.8	242.7
1983	49.6	50.3	102.3	206.3	203.2	203.6	200.0
1984	57.6	59.1	107.4	186.3	181.8	176.9	200.0
1985	73.8	74.2	103.4	140.2	139.4	130.6	171.4
1986	86.7	86.7	102.5	115.6	118.2	119.0	114.3
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	103.7	103.8	113.2	109.2	109.1	107.7	114.3
1989	96.8	104.7	120.6	124.6	115.2	115.4	114.3
1990	86.3	90.5	126.2	146.2	139.4	136.5	142.9
1991	84.7	90.8	123.8	146.2	136.4	134.6	142.9
1992 <sup>1</sup>	84.7	92.5	131.7	155.4	142.4	146.2	126.6
Average annual percent change:							
1947-92	3.4	3.3	.8	-2.6	-2.5	-2.7	-1.2
1973-91	5.4	5.6	-1.8	-6.8	-7.1	-7.4	-5.7

<sup>1</sup> Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of Mines, U.S. Department of the Interior. Employment and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

**Table 94. Primary aluminum (SIC 3334): Indexes of output per hour and related measures, 1967-92**  
(1967 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1967	65.6	65.6	90.2	137.4	137.5	139.0	131.6
1968	61.4	61.5	88.8	144.7	144.5	145.5	140.1
1969	67.5	68.2	102.4	151.8	150.2	152.1	143.1
1970	69.4	68.8	106.2	153.0	154.3	155.1	151.6
1971	75.5	74.0	103.5	137.1	139.9	138.4	145.8
1972	74.8	72.7	107.5	143.7	147.8	144.9	160.0
1973	74.5	73.9	119.2	159.9	161.2	163.0	154.4
1974	83.1	81.3	130.1	156.5	160.0	162.2	151.6
1975	72.1	70.9	103.6	143.7	146.1	139.8	171.5
1976	76.1	75.5	114.6	150.6	151.8	150.7	157.3
1977	75.0	74.5	123.2	164.3	165.3	165.2	165.9
1978	74.7	76.0	130.5	174.6	171.7	172.5	168.8
1979	74.7	74.9	136.3	182.5	182.0	182.5	180.1
1980	75.0	73.4	139.3	185.6	189.7	186.2	203.1
1981	77.9	76.8	134.4	172.6	175.1	166.8	200.2
1982	80.1	74.8	97.9	122.2	130.8	136.3	117.2
1983	91.7	86.6	100.3	109.4	115.8	122.9	98.4
1984	100.8	97.8	122.6	121.6	125.3	136.3	98.4
1985	97.8	93.6	104.7	107.1	111.8	118.5	95.3
1986	102.5	98.8	90.8	88.6	91.9	88.5	100.0
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	102.3	101.5	118.0	115.3	116.3	123.6	98.4
1989	104.8	102.9	120.6	115.1	117.2	126.8	93.7
1990	106.5	104.6	121.1	113.7	115.8	124.2	95.3
1991	110.6	109.0	123.3	111.5	113.1	126.8	79.7
1992 <sup>1</sup>	107.7	105.8	119.7	111.1	113.1	127.4	78.1
Average annual percent change:							
1947-92	3.0	2.8	4.6	1.5	1.8	2.0	1.2
1973-91	2.2	2.2	.2	-2.0	-1.9	-1.4	-3.6

<sup>1</sup> Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of Mines, U.S. Department of the Interior; and the Bureau of the Census. Employment and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

**Table 95. Copper rolling and drawing (SIC 3351): Indexes of output per hour and related measures, 1967-92**  
(1967 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1967	57.0	55.5	98.9	173.4	178.2	183.0	161.9
1968	59.2	58.5	103.3	174.5	178.5	180.0	164.1
1969	63.1	63.8	116.1	184.0	182.1	185.8	170.0
1970	56.6	54.7	94.5	167.0	172.7	172.6	172.0
1971	63.3	61.7	100.7	159.2	163.2	164.2	160.1
1972	64.9	65.2	109.0	168.0	167.1	169.9	158.1
1973	66.7	69.3	122.3	178.1	176.5	180.7	161.9
1974	62.9	62.3	104.1	165.6	167.1	167.5	166.0
1975	56.6	53.4	76.0	134.3	142.4	136.4	164.1
1976	63.5	63.0	95.0	149.7	150.8	150.5	152.1
1977	73.7	73.7	102.1	138.5	138.6	137.5	142.0
1978	73.8	73.3	107.9	146.3	147.3	147.2	148.0
1979	72.3	71.0	112.5	155.5	158.4	159.7	154.1
1980	69.3	67.8	93.0	134.2	137.2	134.1	148.0
1981	72.3	69.6	96.1	133.0	138.1	135.2	148.0
1982	69.5	65.4	74.2	106.7	113.4	107.2	135.3
1983	78.5	78.2	86.3	109.9	110.4	103.9	133.3
1984	83.9	84.7	98.3	117.2	116.0	111.1	133.3
1985	85.5	83.2	87.2	102.0	104.8	102.2	113.7
1986	92.4	90.6	90.6	98.0	100.0	99.4	102.0
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	100.5	100.8	103.0	102.5	102.2	100.6	107.8
1989	94.7	95.5	98.8	104.3	103.5	101.7	109.8
1990	94.3	93.3	93.7	99.4	100.4	98.3	107.8
1991	96.7	94.0	93.2	96.4	99.1	96.7	107.8
1992 <sup>1</sup>	103.4	102.8	100.5	97.2	97.8	95.6	105.9
Average annual percent change:							
1958-92	2.8	2.9	1.1	-1.7	-1.8	-1.9	-1.4
1973-91	1.9	1.7	-1.5	-3.4	-3.2	-3.4	-2.2

<sup>1</sup> Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Copper Development Association Inc., the Bureau of the Census, and the Bureau of Labor Statistics. Employment and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

**Table 96. Aluminum rolling and drawing (SIC 3353, 3354, 3355): Indexes of output per hour and related measures, 1967-91**  
(1967 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1967	48.0	47.9	51.0	106.3	106.5	111.1	92.3
1968	50.0	49.5	56.5	113.0	114.2	118.8	100.2
1969	51.4	51.6	60.9	118.5	118.1	122.0	105.2
1970	52.8	50.8	57.2	106.3	112.5	113.7	108.7
1971	58.0	55.1	61.5	106.0	111.6	113.6	105.9
1972	68.1	67.6	74.4	109.2	110.0	114.3	96.6
1973	75.3	75.3	88.9	118.0	118.1	124.1	99.3
1974	77.3	74.8	84.7	109.6	113.3	118.8	96.6
1975	70.1	65.1	59.6	85.0	91.5	91.2	92.3
1976	81.5	79.0	80.1	98.3	101.4	105.4	89.2
1977	80.2	78.8	85.3	106.4	108.3	113.6	92.3
1978	83.3	80.7	94.2	113.1	116.7	122.0	99.3
1979	80.4	78.8	92.7	115.3	117.7	121.8	103.6
1980	80.1	77.3	87.5	109.2	113.2	114.8	108.0
1981	77.6	75.0	82.3	106.1	109.7	110.8	106.7
1982	79.5	74.7	72.1	90.7	96.5	96.2	97.8
1983	88.1	85.1	83.1	94.3	97.6	99.2	92.2
1984	92.7	90.7	89.5	96.5	98.7	101.5	89.9
1985	92.6	91.5	92.0	99.4	100.5	102.4	94.2
1986	99.4	96.9	95.5	96.1	98.6	99.0	96.5
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	99.1	101.0	99.6	100.5	98.6	97.9	100.7
1989	96.8	97.1	98.7	102.0	101.7	100.7	105.1
1990	94.4	96.2	94.7	100.3	98.4	98.2	99.3
1991	92.6	95.0	91.2	98.5	96.0	95.0	99.3
Average annual percent change:							
1958-91	3.4	3.5	4.0	.6	.5	.4	.9
1973-91	1.2	1.3	.1	-1.0	-1.1	-1.5	.0

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of the Census. Employment and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

**Table 97. Metal cans (SIC 3411): Indexes of output per hour and related measures, 1967-92**  
(1967 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1967	58.5	59.6	91.3	156.0	153.1	160.0	119.3
1968	61.2	62.6	101.2	165.4	161.7	168.8	128.4
1969	62.7	62.7	103.7	165.4	165.4	172.4	130.0
1970	61.8	62.2	110.7	179.2	178.0	185.0	143.3
1971	61.7	60.6	105.7	171.4	174.4	179.9	147.9
1972	63.3	63.0	109.5	173.0	173.9	179.5	146.4
1973	63.9	64.4	114.0	178.3	177.1	184.1	143.3
1974	66.4	66.1	115.9	174.5	175.4	179.5	155.2
1975	68.2	67.8	107.9	158.1	159.2	159.8	156.7
1976	73.4	72.4	112.3	153.1	155.1	156.8	147.9
1977	78.4	78.3	118.9	151.6	151.9	153.7	143.3
1978	80.3	78.9	118.1	147.1	149.6	151.2	141.9
1979	81.2	80.8	118.2	145.5	146.3	147.4	140.3
1980	80.5	80.0	108.9	135.3	136.1	135.7	137.3
1981	84.9	83.5	106.6	125.6	127.7	126.3	134.4
1982	96.6	94.4	109.6	113.5	116.1	114.9	123.7
1983	102.0	98.9	106.9	104.8	108.1	107.2	113.6
1984	105.9	103.3	108.4	102.4	104.9	104.4	108.5
1985	102.4	101.6	106.6	104.1	104.9	105.2	103.4
1986	97.4	96.9	100.8	103.5	104.0	104.9	98.3
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	107.0	108.9	103.3	96.5	94.9	94.6	96.6
1989	106.5	109.2	101.9	93.9	93.3	93.6	91.5
1990	118.3	118.5	107.4	90.8	90.6	90.7	89.8
1991	124.3	123.9	107.3	86.3	86.6	87.1	83.1
1992 <sup>1</sup>	135.8	134.7	108.4	79.8	80.5	81.4	74.6
Average annual percent change:							
1947-92	3.1	3.1	2.2	-.9	-.9	-.9	-.4
1973-91	3.8	3.7	-.3	-4.0	-3.9	-4.1	-3.0

<sup>1</sup> Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Can Manufacturing Association, the Bureau of the Census, and the Bureau of Labor Statistics. Employment and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

**Table 98. Hand and edge tools, not elsewhere classified (SIC 3423): Indexes of output per hour and related measures, 1967-91**  
(1967 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1967	97.3	98.4	84.2	86.5	85.6	91.7	67.9
1968	99.0	99.5	85.5	86.4	85.9	91.3	68.8
1969	101.0	101.8	92.5	91.6	90.9	96.9	73.5
1970	94.4	95.3	85.9	91.0	90.1	95.8	72.6
1971	97.8	98.2	83.5	85.4	85.0	90.5	68.9
1972	105.0	104.5	97.9	93.2	93.7	99.3	77.3
1973	105.5	105.2	106.0	100.5	100.8	106.4	83.9
1974	100.6	99.9	100.2	99.6	100.3	106.8	81.0
1975	97.4	96.0	87.1	89.4	90.7	95.2	77.3
1976	101.3	99.4	97.9	96.6	98.5	103.1	83.9
1977	103.8	102.5	115.0	110.8	112.2	117.9	95.2
1978	104.2	103.2	123.7	118.7	119.9	128.2	95.2
1979	107.9	105.3	128.5	119.1	122.0	127.4	105.6
1980	102.2	97.2	109.3	106.9	112.5	115.2	104.7
1981	98.8	96.9	106.3	110.6	112.8	116.3	102.8
1982	96.3	90.9	87.6	91.0	95.4	95.2	100.0
1983	92.8	88.6	84.7	91.3	95.6	94.7	98.1
1984	94.0	92.2	89.8	95.5	97.4	97.4	97.2
1985	95.3	91.2	86.4	92.8	96.9	98.1	93.4
1986	95.0	94.1	90.5	95.0	96.2	96.6	95.3
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	101.5	101.8	102.0	100.5	100.2	100.3	100.0
1989	102.0	103.3	101.5	99.5	98.3	97.8	100.0
1990	96.4	97.1	94.1	97.6	95.9	95.5	100.9
1991	95.1	95.9	90.6	95.3	94.5	92.7	100.0
Average annual percent change:							
1968-91	.6	.7	1.6	.9	.8	.6	1.4
1973-91	-.6	-.5	-.9	-.3	-.4	-.8	1.0

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

**Table 99. Heating equipment, except electric (SIC 3433): Indexes of output per hour and related measures, 1972-91**  
(1987 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1972	78.5	77.4	116.7	148.6	150.8	165.4	123.6
1973	78.0	78.7	122.9	157.5	156.1	173.0	125.0
1974	72.4	71.8	106.5	147.0	148.4	161.7	123.6
1975	73.9	70.9	97.6	132.1	137.6	146.8	120.8
1976	77.5	76.9	90.1	118.2	117.1	124.9	102.7
1977	91.9	89.5	112.7	122.7	125.9	140.6	98.5
1978	93.3	91.1	127.6	136.7	140.0	156.4	109.8
1979	87.9	86.8	130.6	148.6	150.4	165.4	122.1
1980	91.6	88.6	140.0	152.9	156.1	172.2	131.9
1981	86.9	82.8	108.7	125.1	131.3	134.6	125.0
1982	94.0	89.4	113.5	120.8	126.9	128.5	123.6
1983	85.4	83.1	105.1	123.1	126.4	130.1	119.4
1984	93.5	91.8	107.5	115.0	117.1	120.3	111.1
1985	92.9	92.7	108.5	116.8	117.1	122.5	106.9
1986	95.9	95.2	104.1	108.6	109.4	114.3	100.0
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	112.5	113.0	106.0	94.2	93.8	95.5	90.4
1989	103.0	103.8	97.4	94.6	93.8	94.2	93.2
1990	110.7	109.5	95.5	86.3	87.2	85.7	90.4
1991	115.3	113.2	93.7	81.3	82.8	78.6	91.8
Average annual percent change:							
1972-91	2.0	2.0	-1.1	-3.1	-3.1	-3.8	-1.6
1973-91	2.2	2.0	-1.5	-3.6	-3.5	-4.3	-1.7

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

**Table 100. Fabricated structural metal (SIC 3441): Indexes of output per hour and related measures, 1967-91**  
(1967 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1967	81.7	82.8	109.9	134.5	132.8	136.5	118.6
1968	84.8	85.3	110.2	129.9	129.2	134.2	116.4
1969	84.4	85.5	110.5	130.9	129.2	133.8	117.9
1970	86.4	87.8	108.6	125.7	123.7	128.2	112.4
1971	91.0	91.2	108.6	119.3	119.1	123.2	108.3
1972	93.6	91.9	118.4	126.5	128.9	132.9	118.6
1973	95.5	93.9	122.2	128.0	130.2	134.7	119.1
1974	90.4	89.8	114.9	127.1	128.0	133.3	114.6
1975	82.4	80.8	103.2	125.3	127.8	132.9	115.2
1976	83.6	81.9	96.0	117.2	119.6	123.2	109.5
1977	84.4	83.0	101.9	120.7	122.8	125.8	114.6
1978	84.9	83.3	103.6	122.0	124.3	129.1	112.2
1979	86.3	84.7	114.2	132.4	134.8	141.0	119.1
1980	86.4	85.1	124.0	143.6	145.7	153.4	126.4
1981	83.3	82.2	117.5	141.1	142.9	150.9	122.5
1982	84.2	83.7	107.1	127.2	128.0	130.5	121.7
1983	87.0	86.3	100.0	114.9	115.9	118.2	115.2
1984	91.1	89.7	102.1	112.1	113.8	116.6	106.8
1985	99.6	96.9	106.5	108.9	112.0	115.8	102.6
1986	96.5	96.6	103.1	103.6	104.8	106.0	100.9
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	96.8	99.2	99.3	100.5	100.1	101.5	96.8
1989	94.5	94.9	97.0	102.6	102.2	103.3	99.5
1990	97.2	97.8	101.1	104.0	103.4	104.2	101.4
1991	99.5	96.6	96.4	96.9	97.8	97.8	97.7
Average annual percent change:							
1967-91	1.2	1.2	.7	-.4	-.4	-.8	-.1
1973-91	.2	.3	-1.3	-1.5	-1.6	-1.8	-1.1

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

**Table 101. Metal doors, sash, and trim (SIC 3442): Indexes of output per hour and related measures, 1967-91**  
(1967 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1967	78.9	78.0	66.6	84.4	85.4	87.7	79.6
1968	82.7	80.5	67.1	81.1	83.4	86.1	76.7
1969	80.8	79.5	67.4	83.4	84.8	87.4	78.1
1970	79.3	78.4	65.3	82.3	83.3	84.0	81.6
1971	86.5	86.5	72.8	82.3	84.2	86.1	79.8
1972	89.7	87.7	82.9	92.4	94.5	97.1	86.0
1973	88.8	86.5	80.7	90.9	93.3	95.1	88.0
1974	84.2	81.6	72.8	86.5	89.2	92.2	81.1
1975	86.2	82.1	59.1	68.6	72.0	73.4	67.6
1976	89.7	87.4	65.9	73.5	75.4	78.4	67.8
1977	96.4	93.3	82.1	85.2	88.0	91.8	78.1
1978	91.4	88.4	84.5	82.5	85.6	88.3	88.0
1979	89.5	86.6	84.9	84.9	88.0	100.0	93.0
1980	87.3	84.0	79.1	90.6	94.2	96.0	89.5
1981	87.2	85.6	82.2	94.3	96.0	97.1	93.5
1982	92.6	89.5	79.4	85.7	88.7	87.2	93.0
1983	96.2	91.5	86.3	89.7	94.3	95.2	92.0
1984	99.1	95.9	87.9	88.7	91.7	91.5	91.5
1985	102.5	100.0	95.3	93.0	95.3	94.9	96.6
1986	100.3	100.5	98.7	98.4	98.2	96.9	102.0
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	102.3	101.7	96.9	94.7	95.3	93.4	100.5
1989	102.2	101.5	97.3	95.2	95.9	94.5	100.0
1990	98.3	96.9	90.9	92.5	93.8	91.4	100.5
1991	96.0	94.7	82.6	86.0	87.2	83.4	98.1
Average annual percent change:							
1967-91	.8	.8	.9	.1	.1	-.2	.9
1973-91	.4	.5	.1	-.3	-.4	-.7	.6

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.



**Table 102. Bolts, nuts, rivets, and washers (SIC 3452): Indexes of output per hour and related measures, 1967-91**  
(1967 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1967	68.8	68.2	85.9	124.9	125.9	130.5	114.3
1968	68.9	67.8	86.9	126.2	128.2	132.8	116.6
1969	62.3	62.3	82.6	132.6	132.5	137.3	120.3
1970	59.7	57.1	70.8	118.5	124.1	127.5	115.8
1971	65.5	61.9	68.4	104.5	110.5	114.4	100.7
1972	71.3	70.1	81.2	113.9	115.8	122.7	98.5
1973	72.5	73.7	91.6	126.4	124.3	132.8	103.0
1974	73.1	73.0	92.8	127.0	127.1	136.2	104.5
1975	68.8	63.5	68.0	96.8	107.1	109.8	100.1
1976	73.6	70.9	77.9	105.9	109.9	113.2	101.5
1977	76.6	74.9	86.3	112.7	115.2	120.3	102.3
1978	78.7	77.7	95.2	120.9	122.6	128.4	108.4
1979	77.3	75.8	100.1	129.5	132.1	138.2	116.6
1980	78.8	75.1	93.9	119.2	125.0	128.7	115.8
1981	81.3	77.1	94.2	115.9	122.2	125.1	115.0
1982	74.5	67.7	70.3	94.3	103.8	103.6	104.5
1983	84.1	80.5	79.5	94.5	98.8	97.6	101.5
1984	84.3	83.5	89.9	106.6	107.7	108.4	106.0
1985	86.2	86.3	92.8	105.2	107.5	108.4	105.2
1986	91.4	91.0	93.0	101.8	102.2	102.2	102.2
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	96.6	97.3	104.6	108.3	107.5	106.9	109.0
1989	93.1	92.5	101.8	109.4	110.1	109.9	110.8
1990	93.2	92.0	97.7	104.8	106.2	107.5	103.0
1991	95.2	91.9	92.8	97.5	101.0	101.2	100.7
Average annual percent change:							
1968-91	1.0	1.2	1.3	.3	.1	.0	.5
1973-91	1.5	1.2	.1	-1.4	-1.1	-1.5	-1

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

**Table 103. Metal stampings (SIC 3465, 3466, 3469): Indexes of output per hour and related measures, 1967-91**  
(1967 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1967	76.1	74.7	76.3	100.3	102.1	105.1	89.5
1968	79.0	80.0	83.9	106.2	104.9	106.4	90.0
1969	77.7	77.7	83.8	107.8	107.9	111.4	93.3
1970	74.9	75.1	72.4	96.6	98.4	97.6	91.2
1971	81.4	79.8	75.1	92.3	94.1	95.5	87.3
1972	84.8	83.7	84.5	99.7	101.0	103.2	90.9
1973	84.2	84.1	93.0	110.4	110.6	114.1	94.9
1974	83.6	80.4	83.9	100.4	104.4	106.6	94.2
1975	80.8	76.0	68.1	84.3	89.6	90.0	87.0
1976	84.3	82.4	82.9	98.3	100.6	102.9	90.9
1977	86.7	85.6	94.2	108.6	110.1	112.8	97.9
1978	87.9	85.3	96.6	109.9	113.2	116.9	97.0
1979	88.7	84.1	93.8	105.8	111.5	115.1	95.8
1980	86.7	80.3	80.5	92.8	100.3	101.7	93.8
1981	87.9	82.9	80.5	91.6	97.1	98.5	91.2
1982	85.1	80.4	71.8	84.4	89.3	87.3	97.0
1983	90.8	89.6	83.7	92.2	93.4	92.9	95.0
1984	95.6	94.7	98.2	102.7	103.7	104.7	99.8
1985	90.6	90.7	95.5	105.4	105.3	105.9	102.5
1986	94.1	93.8	93.8	99.7	100.0	100.3	99.3
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	102.5	104.0	102.9	100.4	98.9	99.1	97.9
1989	101.5	99.9	99.8	98.3	99.9	99.1	103.2
1990	98.3	96.5	93.0	94.6	96.4	95.2	101.2
1991	100.5	98.9	88.6	88.2	89.6	88.4	94.7
Average annual percent change:							
1963-91	1.0	.9	1.2	.2	.3	.2	.9
1973-91	1.0	.9	-.3	-1.2	-1.2	-1.4	.0

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

**Table 104. Automotive stampings (SIC 3465): Indexes of output per hour and related measures, 1972-91**  
(1987 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1972	75.5	74.7	76.8	101.7	102.8	103.2	102.0
1973	74.5	74.5	84.2	113.0	113.0	114.3	107.0
1974	74.6	70.4	71.4	95.7	101.4	102.3	98.5
1975	74.0	68.0	60.9	82.3	89.8	90.1	87.4
1976	75.7	73.6	75.5	99.7	102.6	104.3	95.5
1977	78.6	78.0	86.0	109.4	110.3	112.8	100.0
1978	80.1	77.0	87.8	109.6	114.0	116.7	101.0
1979	80.9	75.2	78.6	97.1	104.5	106.6	95.0
1980	79.8	71.2	58.9	75.1	84.1	84.0	85.9
1981	82.5	75.3	58.6	72.2	79.2	79.3	78.9
1982	84.0	77.7	58.7	69.9	75.5	74.6	80.4
1983	96.3	95.9	77.3	80.3	80.6	81.2	77.9
1984	100.5	101.1	94.7	94.2	93.7	95.3	86.4
1985	94.5	95.7	95.2	110.7	99.5	100.7	90.5
1986	95.7	97.1	96.5	100.8	99.4	100.0	90.5
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	104.5	105.4	103.0	98.6	97.7	98.4	94.5
1989	104.7	102.8	99.3	94.8	96.6	96.0	99.5
1990	100.8	98.0	90.5	89.8	92.3	91.4	97.0
1991	104.2	101.0	83.7	80.3	82.9	82.2	86.4
Average annual percent change:							
1972-91	1.7	1.6	.5	-1.2	-1.1	-1.2	-.9
1973-91	1.9	1.7	.0	-1.9	-1.7	-1.8	-1.2

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

**Table 105. Metal stampings, not elsewhere classified (SIC 3469): Indexes of output per hour and related measures, 1972-91**  
(1987 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1972	95.8	94.8	91.2	95.4	96.2	101.4	80.0
1973	95.3	95.6	101.8	106.8	106.5	113.9	83.0
1974	94.3	93.3	98.8	104.8	105.9	111.1	89.3
1975	87.7	85.1	74.2	84.6	87.2	87.8	85.2
1976	93.7	92.5	89.0	95.0	96.2	99.4	86.1
1977	95.7	94.6	102.3	106.9	108.1	112.1	95.1
1978	95.9	95.1	105.8	110.3	111.3	116.9	92.4
1979	97.1	94.8	113.7	117.1	119.9	127.2	95.9
1980	93.9	91.1	108.5	115.5	119.1	125.1	99.7
1981	93.8	92.1	108.8	116.0	118.1	123.6	100.4
1982	85.4	83.3	87.6	102.6	105.2	103.3	111.2
1983	85.1	84.5	91.1	107.0	107.8	107.4	109.0
1984	90.7	89.0	103.1	113.7	115.8	117.1	111.2
1985	85.5	85.4	95.8	112.1	112.2	112.9	109.9
1986	90.7	88.9	89.2	98.3	100.3	100.2	101.3
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	99.9	102.5	104.2	104.3	101.7	101.4	102.7
1989	97.8	96.8	102.3	104.6	105.7	104.9	108.1
1990	95.2	95.0	97.8	102.7	103.0	102.0	106.3
1991	96.5	97.2	96.7	100.2	99.5	98.2	103.6
Average annual percent change:							
1972-91	.0	.1	.3	.3	.2	-.2	1.4
1973-91	.1	.1	-.3	-.4	-.4	-.8	1.2

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

**Table 106. Valves and pipe fittings (SIC 3491, 3492, 3494): Indexes of output per hour and related measures, 1967-91**  
(1967 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1967	82.1	84.5	81.4	99.1	96.3	103.1	82.8
1968	83.1	83.9	81.0	97.5	96.5	102.7	84.0
1969	84.8	86.9	84.5	99.9	97.2	103.9	84.0
1970	84.3	86.4	85.1	101.0	98.5	103.1	89.8
1971	88.4	89.2	84.9	96.0	95.2	99.9	85.9
1972	90.6	90.8	86.5	95.5	95.3	99.9	86.5
1973	92.9	94.4	96.6	104.0	102.3	107.6	91.9
1974	84.9	89.9	97.7	115.1	106.7	114.9	96.8
1975	83.0	82.8	85.7	103.2	103.5	106.2	96.2
1976	81.9	82.2	85.3	104.1	103.8	107.3	96.6
1977	90.0	89.4	98.2	109.1	109.8	115.7	98.6
1978	91.2	90.5	103.3	113.3	114.2	121.2	100.8
1979	94.8	94.4	111.9	118.0	118.5	124.4	107.0
1980	92.5	92.1	109.1	117.9	118.5	122.6	110.6
1981	94.8	94.5	113.1	119.3	119.7	122.6	114.4
1982	91.1	88.7	103.3	113.4	116.4	114.5	120.2
1983	93.3	91.2	93.0	99.7	102.0	100.1	105.8
1984	94.7	94.3	101.8	107.5	107.9	108.6	107.0
1985	94.4	93.4	96.6	104.5	105.6	105.5	106.0
1986	94.0	93.5	93.7	99.7	100.2	99.2	102.4
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	101.9	104.1	109.6	107.6	105.3	107.3	101.2
1989	101.3	102.1	106.2	104.8	104.0	105.3	101.5
1990	102.1	103.3	107.8	105.8	104.4	106.1	101.2
1991	102.1	102.7	103.7	101.8	101.0	101.7	99.7
Average annual percent change:							
1954-91	1.3	1.3	2.0	.7	.7	.3	1.8
1973-91	.5	.5	.4	-.1	-.1	-.3	.5

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

**Table 107. Fabricated pipe and fittings (SIC 3496): Indexes of output per hour and related measures, 1967-91**  
(1967 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1967	130.2	132.4	120.2	92.3	90.8	89.4	95.9
1968	134.5	137.1	125.9	93.6	91.8	92.8	90.0
1969	141.8	149.0	122.8	86.6	82.4	82.7	82.0
1970	126.2	129.0	104.4	82.7	80.9	82.7	78.0
1971	130.1	128.4	105.8	81.3	82.4	84.1	78.1
1972	142.2	139.2	121.7	85.6	87.4	88.1	85.9
1973	147.8	144.8	140.3	94.9	96.9	97.3	95.9
1974	149.6	148.8	155.3	103.8	104.4	105.4	102.0
1975	138.5	136.7	141.3	101.3	103.4	104.1	102.0
1976	130.6	127.3	162.0	124.0	127.3	132.1	113.9
1977	134.3	128.6	181.0	134.8	140.8	142.7	135.9
1978	135.0	129.4	195.2	144.6	150.8	154.8	139.9
1979	121.0	117.9	193.9	180.2	184.4	172.7	139.9
1980	120.8	116.6	186.4	154.3	159.8	162.7	152.0
1981	125.4	121.3	193.9	154.6	158.8	163.5	150.0
1982	120.2	117.4	191.9	159.7	163.4	158.7	177.9
1983	118.8	114.1	167.0	143.0	146.4	144.8	152.0
1984	131.4	126.1	161.4	122.8	126.0	126.0	126.0
1985	121.0	114.7	144.0	119.0	125.5	123.3	132.0
1986	121.9	117.3	122.5	100.5	104.4	100.6	116.0
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	99.3	103.6	110.9	111.7	107.0	108.0	104.0
1989	101.7	102.7	106.4	106.6	105.5	104.0	110.0
1990	106.5	106.9	119.3	112.0	109.5	107.3	116.0
1991	113.3	114.1	117.0	103.3	102.5	106.0	110.0
Average annual percent change:							
1958-91	.0	.0	.9	.9	.9	.9	.9
1973-91	-1.5	-1.3	-1.0	.5	.3	.2	.8

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

**Table 108. Internal combustion engines, not elsewhere classified (SIC 3519): Indexes of output per hour and related measures, 1967-92**  
(1967 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1967	63.7	65.0	64.7	101.5	99.5	105.5	85.3
1968	65.4	67.0	66.1	105.6	103.2	110.0	87.3
1969	66.3	70.0	62.6	120.9	118.0	125.0	101.6
1970	69.2	68.7	74.4	107.5	106.3	114.0	95.3
1971	74.2	72.5	74.7	100.7	103.0	108.4	90.0
1972	79.7	80.4	87.8	110.2	109.2	115.9	93.1
1973	82.5	84.8	100.5	121.6	118.5	126.8	98.9
1974	85.1	87.7	110.9	130.3	126.4	134.7	106.3
1975	78.5	76.5	92.6	118.0	121.0	124.2	113.6
1976	84.1	83.3	104.0	123.7	124.8	129.3	113.8
1977	90.7	90.8	126.0	138.9	138.8	145.2	123.8
1978	95.3	95.7	143.4	150.5	149.9	155.6	136.2
1979	99.0	87.3	138.0	155.1	158.1	164.8	141.6
1980	85.5	85.0	118.8	138.9	139.8	141.0	136.8
1981	84.5	84.6	117.7	139.3	139.2	140.5	136.2
1982	74.1	69.5	86.5	116.7	124.4	116.4	143.1
1983	78.7	74.5	82.2	104.4	110.3	101.7	130.5
1984	90.6	89.9	109.8	121.2	122.1	122.6	121.0
1985	93.4	90.9	102.6	109.9	112.9	111.5	118.3
1986	98.9	96.7	99.0	105.1	102.4	99.8	108.3
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	105.1	105.8	111.4	106.0	105.3	107.6	100.5
1989	111.1	106.7	110.2	99.2	101.4	102.3	99.5
1990	106.4	102.5	100.8	94.7	98.3	98.6	97.6
1991	99.1	95.6	88.9	89.7	93.0	90.1	99.0
1992 <sup>1</sup>	106.2	104.8	95.9	90.3	91.5	87.4	100.0
Average annual percent change:							
1967-92	2.1	1.9	1.8	-0.5	-0.3	-0.8	.8
1973-91	1.0	.7	-0.7	-1.7	-1.3	-1.9	.0

<sup>1</sup> Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

**Table 109. Farm and garden machinery (SIC 352): Indexes of output per hour and related measures, 1967-92**  
(1967 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1967	71.2	72.7	125.3	176.1	172.4	185.3	140.9
1968	71.0	73.2	120.5	189.7	164.6	174.9	139.6
1969	66.4	69.9	112.0	193.8	180.3	187.7	142.5
1970	70.1	71.0	110.8	156.1	156.0	162.5	140.1
1971	76.4	77.6	112.8	147.6	145.3	149.3	135.8
1972	83.4	86.0	131.2	157.4	152.6	163.0	127.8
1973	87.8	90.1	159.2	181.3	176.7	190.7	141.7
1974	90.9	94.6	182.0	200.3	192.4	209.7	150.2
1975	90.4	93.4	170.3	186.3	182.4	192.1	158.6
1976	93.7	94.6	188.4	179.6	178.1	185.5	159.9
1977	92.6	92.6	170.3	180.9	184.0	190.3	168.8
1978	91.6	91.6	159.7	174.4	174.4	181.5	156.5
1979	93.0	94.3	190.0	204.2	201.4	211.0	178.1
1980	86.3	85.5	180.4	185.9	187.5	188.6	154.7
1981	88.0	86.2	150.5	171.0	174.6	173.0	178.9
1982	87.8	85.8	119.2	135.7	138.9	129.4	162.3
1983	86.0	86.4	106.3	120.8	123.1	115.7	141.2
1984	96.9	96.6	116.2	119.9	120.3	119.3	125.1
1985	83.3	93.2	101.8	109.1	109.2	106.7	115.1
1986	94.3	94.9	91.1	96.6	96.0	93.9	100.8
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	106.5	107.5	117.4	110.2	109.2	114.9	97.4
1989	113.3	113.2	124.1	109.5	109.6	117.6	93.1
1990	117.7	117.1	132.1	112.2	112.8	123.0	91.8
1991	112.6	110.0	115.2	102.3	104.7	112.5	88.6
1992 <sup>1</sup>	118.8	115.6	114.9	96.7	90.4	105.4	96.9
Average annual percent change:							
1967-92	2.0	1.9	.9	-1.1	-0.9	-0.9	-1.1
1973-91	1.4	1.1	-1.8	-3.1	-2.9	-2.9	-2.6

<sup>1</sup> Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

**Table 110. Farm machinery and equipment (SIC 3523): Indexes of output per hour and related measures, 1972-92**  
(1987 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1972	90.2	92.3	189.4	187.9	183.5	204.3	136.1
1973	95.6	97.3	210.2	219.9	216.0	242.0	158.6
1974	97.1	100.7	234.4	241.4	232.7	263.8	184.3
1975	98.7	101.3	230.8	233.8	227.8	250.3	179.3
1976	102.1	101.8	227.5	222.8	223.4	240.8	184.3
1977	100.0	99.1	226.3	226.3	230.3	245.8	195.9
1978	97.3	98.9	205.8	211.5	212.3	227.8	177.6
1979	98.2	99.1	243.8	248.3	246.0	285.9	202.0
1980	91.2	89.6	209.6	229.9	234.0	244.4	211.1
1981	93.9	91.2	199.9	212.9	219.2	224.4	207.6
1982	92.5	88.8	140.5	181.6	188.4	180.9	184.8
1983	92.0	89.1	128.1	139.3	143.8	138.6	159.7
1984	104.6	103.3	136.5	136.5	132.2	131.7	133.5
1985	98.6	97.4	114.6	116.2	117.7	114.8	124.0
1986	95.7	96.5	96.7	101.0	100.2	97.6	105.5
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	110.4	111.7	123.2	111.6	110.3	118.1	96.7
1989	120.7	120.9	137.5	113.9	113.7	125.0	93.9
1990	126.6	125.1	145.6	115.0	116.4	130.8	91.0
1991	119.4	115.0	125.2	104.9	108.9	121.5	86.5
1992 <sup>1</sup>	127.1	123.5	124.9	98.3	101.3	110.6	84.9
Average annual percent change:							
1972-82	1.7	1.5	-1.5	-3.2	-2.9	-3.0	-2.4
1973-91	1.2	.9	-2.8	-4.0	-3.7	-3.8	-3.3

<sup>1</sup> Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

**Table 111. Lawn and garden equipment (SIC 3524): Indexes of output per hour and related measures, 1972-91**  
(1987 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1972	85.3	87.7	56.0	85.8	82.7	78.6	98.6
1973	86.2	89.1	59.8	90.4	86.6	85.8	89.7
1974	75.8	77.8	76.7	103.8	101.1	99.4	106.9
1975	86.1	88.8	83.9	91.6	78.3	73.4	94.8
1976	89.4	73.1	84.6	78.7	74.7	71.8	84.5
1977	73.5	74.5	98.3	79.3	78.3	76.5	84.5
1978	79.5	78.8	89.2	87.0	87.8	86.9	91.4
1979	83.5	84.4	84.1	100.7	99.6	98.5	103.4
1980	78.4	79.6	64.9	82.8	81.5	74.9	103.4
1981	74.3	75.3	54.7	73.6	72.6	67.6	89.7
1982	76.8	82.4	58.9	74.9	71.5	64.9	93.1
1983	81.4	80.3	62.9	77.3	75.5	72.8	84.5
1984	80.0	81.7	76.1	85.1	83.1	83.8	91.3
1985	82.1	84.9	76.1	82.7	89.6	90.1	87.9
1986	82.7	82.6	80.1	86.4	86.3	86.4	86.2
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	97.5	97.8	103.9	106.6	106.2	107.5	101.7
1989	94.7	93.6	92.5	97.7	98.8	101.0	91.7
1990	96.0	96.9	100.3	104.5	103.5	105.5	96.7
1991	96.1	97.6	91.9	95.6	94.2	93.0	98.3
Average annual percent change:							
1972-81	2.1	1.9	2.6	.8	.7	.9	.1
1973-91	2.1	1.9	2.4	.3	.5	.4	.5

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

**Table 112. Construction machinery (SIC 3531): Indexes of output per hour and related measures, 1967-91**  
(1967 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index							
1967	75.9	75.0	129.0	160.3	164.0	161.9	126.3
1968	75.0	75.6	126.3	171.0	169.7	166.6	135.4
1969	75.9	77.4	131.9	173.8	170.4	166.3	133.7
1970	76.1	76.5	132.4	180.8	159.9	173.6	132.9
1971	76.2	77.6	116.0	148.3	149.5	161.0	126.7
1972	83.9	86.4	140.9	167.9	166.0	161.1	132.5
1973	85.8	86.4	164.6	191.8	186.3	206.0	146.0
1974	91.5	93.8	162.3	199.2	194.3	214.6	152.9
1975	85.6	86.4	160.0	186.5	185.2	200.4	154.8
1976	87.9	85.9	153.4	174.6	178.5	188.6	156.1
1977	91.3	89.0	170.6	186.9	191.6	205.1	164.0
1978	96.6	96.3	200.7	207.7	208.4	224.5	175.4
1979	91.6	87.2	166.2	205.5	215.9	231.6	164.0
1980	89.1	85.7	166.9	187.4	194.7	200.4	163.3
1981	87.6	84.9	152.6	173.8	179.8	186.3	166.7
1982	81.3	73.3	104.2	126.2	142.2	134.0	156.7
1983	80.8	73.6	83.5	103.3	113.2	105.7	136.3
1984	95.0	92.2	109.0	114.7	116.2	117.4	119.4
1985	96.7	93.6	105.8	109.4	112.6	110.2	117.6
1986	102.7	99.5	107.9	105.1	106.4	106.4	112.2
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	107.5	109.7	113.2	105.3	103.2	109.8	93.5
1989	111.1	109.9	115.5	104.0	105.1	110.8	96.6
1990	114.5	112.3	120.6	105.3	107.4	111.0	102.2
1991	99.6	97.6	94.0	94.2	96.3	95.9	96.9
Average annual percent change							
1958-91	1.2	1.2	.8	-.6	-.6	-.7	-.3
1973-91	.8	.6	-3.1	-3.9	-3.6	-4.2	-2.3

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

**Table 113. Mining machinery and equipment (SIC 3532): Indexes of output per hour and related measures, 1972-92**  
(1967 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index							
1972	94.3	92.9	145.5	154.3	156.6	174.5	129.8
1973	99.2	99.3	164.4	165.8	165.6	185.7	124.3
1974	105.2	105.3	166.0	166.3	166.1	213.6	144.7
1975	101.8	102.1	200.6	216.9	216.1	247.8	166.7
1976	96.7	97.8	206.1	237.7	234.7	264.9	166.9
1977	91.2	90.4	206.9	226.9	230.9	247.9	205.7
1978	95.7	93.3	169.9	221.6	226.0	241.7	207.4
1979	87.2	85.8	166.6	216.3	219.9	232.1	201.9
1980	89.9	86.0	160.0	214.7	219.2	226.3	205.7
1981	89.2	86.2	162.9	205.0	207.4	212.4	200.0
1982	83.1	76.7	142.2	171.2	160.6	174.5	190.8
1983	83.4	79.2	98.4	116.0	124.2	113.4	140.8
1984	90.3	87.4	106.5	120.2	124.2	120.8	129.8
1985	93.0	89.2	105.5	113.4	116.3	113.4	126.0
1986	95.6	92.5	100.0	104.6	106.1	100.7	114.9
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	102.0	102.1	100.9	98.9	98.8	101.0	95.5
1989	106.8	106.5	109.2	100.4	100.6	103.0	97.0
1990	100.6	100.0	109.0	106.3	109.0	113.0	103.0
1991	92.5	89.8	92.0	96.5	102.4	100.0	106.0
1992 <sup>1</sup>	101.1	96.7	92.9	91.8	94.0	93.0	99.5
Average annual percent change							
1972-92	.0	.3	-2.2	-2.6	-2.5	-3.1	-1.5
1973-91	-.4	-.6	-3.2	-2.6	-2.6	-3.4	-1.3

<sup>1</sup> Preliminary

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.



**Table 114. Oil and gas field machinery (SIC 3533): Indexes of output per hour and related measures, 1967-91**  
(1967=100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1967	122.1	121.6	133.3	109.2	109.6	126.5	85.3
1968	123.4	124.8	142.7	115.6	114.3	134.8	84.8
1969	116.2	118.2	145.3	127.6	125.5	148.7	92.0
1970	122.4	120.8	148.7	121.5	123.3	143.0	94.7
1971	128.2	126.3	142.7	111.3	113.0	126.5	93.2
1972	141.2	141.7	162.4	115.0	114.6	129.4	93.2
1973	149.7	153.8	191.9	128.2	124.8	141.6	100.7
1974	171.8	176.7	251.3	146.3	142.2	165.2	109.2
1975	152.7	156.3	267.5	175.2	171.1	202.9	125.1
1976	142.6	141.3	256.8	180.1	181.7	212.5	137.7
1977	141.6	142.3	271.8	192.0	191.0	221.5	146.9
1978	154.6	158.5	337.2	218.1	212.7	249.8	158.9
1979	149.3	150.5	350.0	234.4	232.6	272.4	175.4
1980	147.3	150.8	400.9	272.1	265.8	310.8	201.9
1981	148.3	155.2	521.8	351.8	336.3	399.3	246.1
1982	139.4	137.6	427.4	306.7	310.6	358.4	241.5
1983	130.0	124.2	233.3	179.4	187.9	198.9	171.5
1984	124.2	122.5	220.5	177.6	179.5	197.5	153.6
1985	113.5	112.7	204.7	180.4	181.7	196.4	159.4
1986	104.2	99.9	128.2	123.0	128.3	130.5	124.4
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	123.0	123.6	138.6	112.7	112.1	114.6	108.6
1989	115.3	114.6	125.0	108.4	109.1	108.5	106.9
1990	113.5	119.0	139.0	122.5	116.8	121.6	109.9
1991	110.4	115.9	145.4	131.7	125.5	134.7	112.6
Average annual percent change:							
1967-91	-4	-2	.4	.8	.6	.3	1.2
1973-91	-1.7	-1.6	-1.5	.1	.0	-.3	.8

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

**Table 115. Machine tools (SIC 3541, 3542): Indexes of output per hour and related measures, 1967-92**  
(1967=100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1967	91.8	98.7	252.5	275.0	255.7	302.7	188.2
1968	88.3	94.0	231.7	262.3	248.5	296.3	190.1
1969	90.3	95.6	232.1	257.0	242.9	277.9	193.2
1970	82.8	85.7	188.7	228.0	220.2	245.1	184.6
1971	79.4	79.5	137.1	172.7	172.5	182.9	156.9
1972	88.4	91.4	153.7	173.8	168.2	185.8	143.1
1973	96.8	102.5	195.9	202.3	191.1	218.1	151.8
1974	98.7	103.8	214.6	217.4	206.7	238.8	160.2
1975	93.0	94.3	183.8	187.7	195.0	217.6	163.1
1976	88.9	88.9	158.2	178.0	177.9	199.0	148.0
1977	90.2	92.1	168.4	186.6	182.9	198.5	160.2
1978	92.7	95.8	188.6	203.5	196.9	220.2	162.9
1979	92.0	95.1	200.8	218.2	211.1	239.5	170.4
1980	89.2	90.9	199.1	223.2	219.0	245.6	181.2
1981	87.1	88.5	191.1	219.4	215.9	237.8	185.1
1982	79.5	77.0	131.8	165.8	170.9	170.9	170.9
1983	75.4	72.5	92.8	123.0	128.0	126.7	130.1
1984	85.6	83.4	107.2	125.3	128.5	130.8	125.3
1985	88.8	87.4	116.3	131.0	133.0	135.2	129.6
1986	90.2	90.0	109.3	121.2	121.4	121.5	121.0
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	101.2	103.5	107.9	106.6	104.3	105.8	101.7
1989	104.2	107.5	113.9	109.3	106.0	109.3	100.4
1990	102.5	102.5	103.4	100.9	100.9	102.5	98.3
1991	97.9	97.3	89.8	91.7	92.3	91.2	94.0
1992 <sup>1</sup>	99.3	99.0	83.4	84.0	84.2	82.4	87.2
Average annual percent change:							
1968-92	1.3	1.3	-.7	-2.0	-2.0	-2.5	-1.1
1973-91	.1	-.3	-4.2	-4.3	-4.0	-4.7	-2.6

<sup>1</sup> Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

**Table 116. Metal cutting machine tools (SIC 3541): Indexes of output per hour and related measures, 1967-92**  
(1967=100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1967	86.8	94.4	259.7	299.3	275.0	332.0	198.0
1968	84.7	90.6	241.1	284.5	266.0	315.5	196.7
1969	85.4	92.1	239.8	277.7	260.5	303.4	202.4
1970	79.3	82.3	184.9	233.3	224.8	251.4	189.0
1971	75.7	76.1	129.7	171.4	170.4	182.3	154.2
1972	84.0	87.4	144.8	172.4	185.6	183.4	141.6
1973	93.4	99.0	187.2	200.4	189.0	218.4	149.0
1974	96.4	102.9	210.8	218.7	204.8	241.2	156.4
1975	91.0	93.5	185.3	203.6	198.2	223.6	163.3
1976	86.2	87.1	159.6	185.2	183.3	206.1	152.1
1977	88.5	91.9	172.4	194.8	187.5	204.8	164.6
1978	91.7	96.6	196.0	213.7	202.8	231.7	163.7
1979	91.2	96.6	210.5	230.8	217.8	251.0	173.4
1980	89.1	93.4	214.5	240.7	229.6	262.6	185.4
1981	87.6	91.3	213.8	244.1	234.2	263.1	195.7
1982	78.9	77.4	142.2	180.2	183.8	186.2	180.8
1983	72.4	70.7	96.0	132.6	135.7	134.6	137.1
1984	83.8	82.4	110.1	131.4	133.6	135.8	131.1
1985	87.2	86.7	116.9	134.1	134.9	136.9	132.7
1986	89.0	90.1	109.7	123.2	121.7	120.9	123.0
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	94.1	95.6	99.3	105.5	103.9	104.8	102.3
1989	100.5	103.8	109.6	109.1	105.6	109.0	100.0
1990	102.0	101.5	100.6	98.6	99.1	101.4	95.3
1991	99.0	98.7	89.0	89.9	90.2	89.7	91.2
1992 <sup>1</sup>	94.8	94.8	78.3	82.6	82.6	81.0	85.4
Average annual percent change:							
1958-92	1.4	1.4	-7	-2.1	-2.0	-2.6	-1.1
1973-91	.3	.0	-4.0	-4.4	-4.0	-4.8	-2.7

<sup>1</sup> Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

**Table 117. Metal forming machine tools (SIC 3542): Indexes of output per hour and related measures, 1967-92**  
(1967=100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1967	106.8	112.4	237.7	222.6	211.4	240.2	182.7
1968	98.5	105.0	211.9	215.1	201.8	222.8	166.6
1969	101.3	106.4	215.8	213.0	202.8	222.8	168.5
1970	93.3	96.9	202.9	217.4	208.3	231.0	172.4
1971	90.7	90.6	160.1	176.6	176.8	184.0	164.6
1972	101.9	103.4	180.3	177.0	174.4	190.7	147.0
1973	108.1	114.4	223.8	207.0	195.8	217.1	158.8
1974	106.0	109.1	229.1	218.2	210.0	233.1	170.5
1975	98.5	97.5	183.4	186.1	186.1	203.5	162.7
1976	96.3	95.2	157.8	163.8	165.8	182.8	137.3
1977	94.8	92.8	160.9	168.7	171.6	185.0	149.2
1978	95.1	94.8	173.1	182.1	182.5	195.3	160.8
1979	94.1	92.2	180.3	191.7	195.6	214.8	162.7
1980	88.7	84.7	165.1	186.2	194.9	209.0	170.7
1981	84.8	80.5	140.1	165.2	174.0	183.9	158.9
1982	80.6	76.3	107.8	133.7	141.2	139.1	145.1
1983	83.4	77.1	85.5	102.5	110.9	110.3	111.9
1984	89.4	86.4	100.8	112.7	116.7	120.7	109.9
1985	92.3	90.0	115.4	125.0	126.2	132.1	121.8
1986	92.8	90.3	108.6	117.0	120.2	122.9	115.7
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	116.0	120.3	126.8	109.1	105.2	108.3	100.0
1989	112.4	115.3	123.4	109.8	107.0	110.2	101.6
1990	102.6	103.6	109.6	106.8	105.8	105.6	106.3
1991	95.0	93.7	91.5	96.3	97.7	95.4	101.8
1992 <sup>1</sup>	107.7	107.0	94.6	87.8	88.4	86.1	92.2
Average annual percent change:							
1958-92	.9	1.0	-8	-1.7	-1.8	-2.1	-1.1
1973-91	-7	-1.1	-4.8	-4.2	-3.8	-4.5	-2.5

<sup>1</sup> Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

**Table 118. Machine tool accessories (SIC 3545): Indexes of output per hour and related measures, 1967-91**  
(1967 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1967	84.4	87.4	105.9	125.4	121.1	126.9	107.1
1968	82.3	83.7	97.8	118.8	118.8	120.1	108.5
1969	86.4	90.2	102.6	116.1	113.8	116.9	106.6
1970	81.4	79.8	83.2	102.2	104.2	106.0	100.0
1971	91.5	86.1	76.3	83.4	86.6	85.7	88.8
1972	99.4	100.3	90.4	90.9	90.1	90.5	89.5
1973	104.9	108.8	115.1	109.7	105.8	109.4	97.3
1974	103.4	105.7	121.5	117.5	114.9	119.1	105.2
1975	100.0	96.0	101.6	101.6	105.8	106.9	103.3
1976	98.1	97.1	101.4	103.4	104.4	104.7	103.8
1977	99.2	99.9	111.8	112.7	111.9	112.8	109.9
1978	102.8	105.0	126.5	123.1	120.5	121.5	118.1
1979	100.1	101.9	133.2	133.1	130.7	133.3	124.7
1980	98.3	96.2	132.9	135.2	135.3	136.7	131.9
1981	101.2	99.9	131.4	129.9	131.5	131.3	131.9
1982	88.3	83.5	94.6	107.1	113.3	107.6	126.7
1983	82.3	80.4	77.1	93.7	95.9	92.1	105.2
1984	94.4	95.7	100.1	106.0	104.6	103.6	107.1
1985	91.8	92.1	97.9	106.6	106.3	105.5	108.5
1986	94.7	93.3	95.6	101.0	102.5	100.5	107.1
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	99.5	100.6	108.7	109.3	108.0	108.7	106.5
1989	104.7	105.8	118.4	113.1	111.9	112.5	110.4
1990	107.6	107.3	115.6	107.4	107.7	107.3	108.5
1991	109.2	108.5	107.8	98.7	99.4	98.4	101.9
Average annual percent change:							
1963-91	1.1	1.1	1.5	.4	.4	.3	.8
1973-91	.2	.0	-.4	-.6	-.3	-.6	.3

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of the Census and the Bureau of Labor Statistics. Employment and hours based on data from the Bureau of Labor Statistics.

**Table 119. Pumps and compressors (SIC 3561, 3563, 3594): Indexes of output per hour and related measures, 1967-91**  
(1967 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1967	67.8	70.4	75.2	110.9	106.8	121.8	87.7
1968	67.7	70.4	73.3	108.3	104.1	116.9	88.1
1969	71.0	73.5	79.4	111.8	108.1	122.5	89.6
1970	70.6	72.2	80.3	113.7	111.2	123.6	95.4
1971	71.6	72.3	74.5	104.0	103.0	111.9	91.5
1972	75.0	76.4	81.6	109.0	107.0	119.9	90.7
1973	80.6	82.1	94.3	117.0	114.9	130.9	94.6
1974	79.5	79.9	100.8	126.8	126.1	146.3	100.4
1975	75.1	75.0	93.4	124.3	124.5	136.5	106.6
1976	79.7	80.2	96.1	123.1	122.3	135.2	105.7
1977	82.2	82.7	107.3	130.5	129.7	144.2	111.2
1978	84.5	84.4	115.1	136.2	136.3	152.5	115.7
1979	84.6	84.4	123.3	145.8	146.1	164.5	122.8
1980	82.4	82.3	121.5	147.4	147.7	163.5	127.7
1981	84.3	83.7	119.7	142.0	143.0	154.3	128.5
1982	78.9	77.4	105.9	134.2	136.8	138.1	135.0
1983	83.0	80.2	88.2	106.3	110.0	109.0	111.1
1984	88.5	87.4	101.7	114.9	116.4	120.2	111.6
1985	89.6	88.4	99.6	111.1	112.7	115.5	108.9
1986	91.8	91.2	94.7	103.2	103.8	102.3	105.4
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	105.5	106.5	113.0	107.1	106.1	108.8	102.8
1989	103.6	104.0	107.8	104.1	103.7	104.9	102.1
1990	105.9	105.7	110.0	103.9	104.1	105.6	102.1
1991	106.1	106.2	112.6	106.1	106.0	107.5	104.0
Average annual percent change:							
1958-91	2.1	2.1	2.9	.7	.8	.5	1.2
1973-91	1.5	1.4	1.0	-.5	-.4	-1.1	.5

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

**Table 120. Pumps and pumping equipment (SIC 3561, 3594): indexes of output per hour and related measures, 1972-91**  
(1967 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1972	75.2	76.6	85.8	114.1	112.0	124.9	94.9
1973	78.0	80.6	97.2	124.6	120.6	135.5	100.6
1974	77.5	77.9	97.4	125.6	125.0	143.6	100.0
1975	74.4	74.2	95.7	128.7	129.0	139.6	114.7
1976	76.8	77.6	98.4	128.1	126.8	137.3	112.8
1977	82.7	83.3	105.9	128.0	127.2	139.9	110.0
1978	84.1	83.6	112.9	134.2	135.1	149.7	115.7
1979	83.9	82.7	118.9	141.7	143.8	160.4	121.2
1980	80.8	80.1	119.8	148.2	149.6	163.4	130.8
1981	84.3	83.3	121.1	143.6	145.3	154.9	132.8
1982	77.0	75.1	103.7	134.6	138.1	137.6	138.9
1983	81.7	79.0	86.7	106.1	109.8	108.0	112.1
1984	88.0	86.6	100.6	114.3	116.2	118.7	112.6
1985	88.4	87.4	98.4	111.3	112.6	114.2	110.3
1986	90.7	90.1	96.0	105.9	106.5	104.4	109.3
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	106.0	106.5	113.1	106.7	106.2	107.0	105.2
1989	102.4	102.1	107.4	104.9	105.2	104.5	106.1
1990	104.4	103.3	108.1	103.5	104.6	104.2	105.2
1991	103.1	102.3	106.6	103.4	104.2	102.4	106.6
Average annual percent change:							
1972-91	1.7	1.5	1.1	-.5	-.4	-1.0	.6
1973-91	1.6	1.3	.5	-1.0	-.8	-1.5	.3

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

**Table 121. Ball and roller bearings (SIC 3562): indexes of output per hour and related measures, 1967-92**  
(1967 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1967	85.2	84.3	128.1	150.4	151.9	155.1	142.7
1968	86.2	86.9	126.9	143.8	146.0	146.4	144.9
1969	86.1	85.2	130.3	151.3	153.0	154.4	149.1
1970	84.0	77.8	113.6	135.2	146.0	145.8	146.9
1971	87.0	81.9	103.5	119.0	126.4	124.3	133.3
1972	96.8	92.0	122.9	126.9	128.0	128.8	126.2
1973	101.2	102.4	142.3	140.6	139.0	140.8	133.3
1974	102.6	100.1	145.0	141.3	144.8	147.7	135.5
1975	95.7	91.4	119.6	125.0	130.9	130.6	132.4
1976	97.3	94.5	120.9	124.3	128.0	127.8	129.3
1977	98.3	95.8	127.8	130.0	133.4	132.4	136.5
1978	104.1	100.1	136.8	131.4	136.6	137.3	135.4
1979	104.0	101.9	143.8	138.3	141.1	143.2	134.4
1980	93.8	91.2	127.8	136.3	140.1	142.8	132.3
1981	92.7	90.1	125.2	135.0	139.0	139.9	136.5
1982	81.8	76.4	89.2	109.1	116.7	112.6	130.2
1983	84.5	82.4	85.8	101.5	104.1	100.6	115.6
1984	92.6	93.2	108.3	116.9	116.2	113.9	124.0
1985	90.2	89.2	99.8	110.7	111.9	109.1	120.8
1986	93.6	92.7	96.8	103.4	104.4	101.3	114.6
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	101.7	103.3	105.6	103.8	102.2	103.5	97.9
1989	96.7	97.1	101.1	104.6	104.1	105.7	99.0
1990	90.7	90.1	93.3	102.8	103.6	104.7	100.0
1991	88.0	85.5	84.2	95.7	96.5	99.7	94.8
1992 <sup>1</sup>	98.1	95.0	89.9	91.6	93.7	96.5	84.4
Average annual percent change:							
1968-92	1.9	2.0	1.7	-.2	-.4	-.3	-.4
1973-91	-.8	-1.0	-2.9	-2.1	-1.9	-1.9	-1.9

<sup>1</sup> Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

**Table 122. Air and gas compressors (SIC 3563): indexes of output per hour and related measures, 1972-91**  
(1967 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1972	74.9	76.5	73.7	96.4	95.3	108.8	82.6
1973	86.9	85.5	88.2	101.5	103.1	120.8	83.3
1974	83.8	84.6	108.4	129.4	126.2	153.0	100.9
1975	77.1	77.6	89.0	115.5	114.7	136.3	91.2
1976	86.5	86.7	97.7	113.0	112.7	131.4	92.1
1977	81.3	82.1	110.4	135.8	134.5	154.0	113.2
1978	85.8	87.2	120.5	140.5	138.2	159.7	115.0
1979	86.3	88.1	133.0	154.1	150.9	174.1	125.6
1980	85.8	87.5	125.4	146.1	143.3	163.6	121.1
1981	86.9	88.1	121.0	139.2	137.4	153.0	120.2
1982	83.0	83.0	111.0	133.7	133.7	139.5	127.2
1983	85.8	83.3	91.8	107.0	110.2	111.3	106.8
1984	89.6	89.2	104.2	116.3	116.8	123.3	109.7
1985	91.7	90.4	101.9	111.1	112.7	118.4	106.1
1986	94.8	94.4	92.5	97.6	98.0	97.5	96.2
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	104.4	106.4	112.7	107.9	105.9	112.9	98.2
1989	106.2	108.3	108.7	102.4	100.4	105.6	94.7
1990	109.0	111.0	114.2	104.8	102.9	108.9	96.5
1991	111.7	114.1	125.2	112.1	109.7	119.4	99.1
Average annual percent change:							
1972-91	2.1	2.1	2.8	.7	.7	.5	1.0
1973-91	1.4	1.6	2.0	.6	.3	-.1	1.0

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

**Table 123. Refrigeration and heating equipment (SIC 3585): indexes of output per hour and related measures, 1967-91**  
(1967 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1967	73.2	71.6	47.0	64.2	65.6	63.0	72.9
1968	77.8	75.9	53.3	68.5	70.2	67.5	77.5
1969	82.8	81.6	64.0	77.3	78.4	76.8	82.6
1970	83.5	80.3	64.6	77.4	80.4	78.5	85.5
1971	89.5	86.1	66.5	74.3	77.2	75.5	82.3
1972	97.3	96.8	86.8	89.2	89.7	88.8	92.2
1973	97.2	96.0	98.6	101.4	102.7	101.1	106.7
1974	101.0	97.5	92.8	91.9	95.2	92.7	101.8
1975	85.0	80.7	61.1	71.9	75.7	70.4	90.4
1976	88.9	87.3	76.7	86.3	87.9	84.6	96.7
1977	94.5	91.2	87.6	92.7	96.0	92.1	106.4
1978	94.7	93.6	96.7	102.1	103.3	100.0	112.1
1979	95.7	93.0	97.7	102.1	105.0	102.4	111.9
1980	88.7	85.2	81.3	91.7	95.4	89.6	111.3
1981	94.4	91.0	86.1	93.3	96.8	93.2	106.6
1982	94.7	90.2	76.2	82.6	86.7	81.1	101.8
1983	95.6	93.2	82.2	86.0	86.2	83.4	101.2
1984	100.0	99.5	97.0	97.0	97.5	95.1	104.0
1985	98.2	96.2	94.7	96.4	98.4	95.1	107.2
1986	96.3	94.8	92.7	96.3	97.8	95.6	103.7
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	103.4	103.5	107.8	104.3	104.2	104.8	102.1
1989	106.1	105.0	111.3	104.9	106.0	107.4	101.8
1990	106.0	102.2	99.2	93.6	97.1	96.3	99.4
1991	103.1	101.2	93.3	90.5	92.2	90.2	97.7
Average annual percent change:							
1967-91	1.4	1.5	2.9	1.4	1.4	1.5	1.2
1973-91	.3	.3	-.3	-.6	-.6	-.6	-.5

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of the Census and the Bureau of Labor Statistics. Employment and hours based on data from the Bureau of Labor Statistics.

**Table 124. Carburetors, pistons, rings, and valves (SIC 3592): Indexes of output per hour and related measures, 1972-91**  
(1987 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1972	95.7	92.0	113.1	118.2	123.0	124.8	116.0
1973	101.3	98.4	147.2	145.3	149.6	153.1	136.5
1974	90.9	85.7	126.0	138.6	147.0	149.1	136.8
1975	84.2	76.6	104.3	123.8	136.2	136.5	136.5
1976	90.2	86.1	123.3	136.7	143.2	144.0	140.9
1977	84.0	80.7	119.7	142.5	148.3	150.2	140.9
1978	79.5	75.3	115.5	145.3	153.3	154.9	147.8
1979	79.6	76.0	126.7	159.2	166.7	169.9	154.7
1980	75.9	70.1	104.9	138.2	149.6	148.0	157.0
1981	77.1	71.2	106.0	140.0	151.6	152.6	147.8
1982	77.3	71.1	102.1	132.1	143.7	138.7	160.7
1983	83.7	80.0	109.6	131.2	137.2	134.1	150.1
1984	92.8	89.8	136.2	149.0	153.9	153.7	154.5
1985	95.9	91.3	132.9	138.6	145.5	143.8	152.4
1986	93.5	91.7	121.6	130.1	132.6	128.8	147.9
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	109.9	111.8	105.5	96.0	94.5	92.8	101.7
1989	119.7	120.2	96.0	60.2	79.9	77.5	69.8
1990	113.5	112.0	84.7	74.6	75.6	75.9	74.6
1991	114.9	112.3	60.2	69.8	71.4	71.9	69.5
Average annual percent change:							
1972-91	1.0	1.1	-1.8	-2.7	-2.8	-2.9	-2.7
1973-91	.7	.7	-3.3	-4.0	-4.0	-4.1	-3.7

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

**Table 125. Transformers, except electronic (SIC 3612): Indexes of output per hour and related measures, 1967-92**  
(1987 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1967	73.1	72.5	80.8	110.8	111.4	107.1	123.6
1968	77.5	76.3	86.9	112.1	113.9	110.5	124.1
1969	85.6	84.8	93.8	109.6	110.6	108.1	118.1
1970	86.1	84.7	98.2	114.1	115.9	114.6	118.9
1971	91.3	87.8	99.4	106.9	113.2	112.8	114.3
1972	94.9	92.1	106.3	112.0	115.4	114.2	118.9
1973	93.6	91.7	117.5	125.5	128.2	128.3	128.1
1974	89.6	87.0	114.9	128.2	132.0	130.7	135.5
1975	86.4	82.1	86.9	100.6	105.9	98.5	126.4
1976	87.0	84.3	87.5	100.6	103.8	96.8	123.6
1977	96.8	94.8	101.7	105.1	107.3	102.2	122.0
1978	99.9	98.1	108.3	108.4	110.4	106.3	122.0
1979	104.8	102.7	114.4	109.2	111.4	108.4	119.7
1980	107.0	104.3	112.4	105.0	107.8	102.2	123.6
1981	103.3	101.2	110.2	106.7	108.9	104.4	121.2
1982	96.2	91.7	92.3	95.9	100.6	97.0	110.6
1983	96.0	93.8	90.8	94.6	96.8	91.6	111.4
1984	94.6	94.8	101.2	107.0	106.8	104.7	112.9
1985	95.8	96.2	101.0	105.4	105.0	103.0	110.6
1986	97.6	99.1	99.7	102.2	100.6	101.1	99.2
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	102.8	103.7	108.7	105.7	104.8	103.0	109.8
1989	104.8	105.3	107.8	102.9	102.4	99.5	110.6
1990	112.2	112.9	110.4	98.4	97.8	94.0	108.3
1991	118.4	115.8	104.9	90.1	90.6	86.6	101.5
1992 <sup>1</sup>	125.1	122.7	101.6	81.4	83.0	79.0	93.9
Average annual percent change:							
1963-92	2.3	2.3	2.3	.0	.0	.1	-2
1973-91	1.2	1.3	-6	-1.8	-1.9	-2.2	-1.3

<sup>1</sup> Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of the Census and the Bureau of Labor Statistics. Employment and hours based on data from the Bureau of Labor Statistics.



**Table 126. Switchgear and switchboard apparatus (SIC 3613): Indexes of output per hour and related measures, 1967-91**  
(1967 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1967	69.3	71.0	94.8	136.7	133.5	145.0	110.9
1968	69.3	71.0	89.8	129.5	126.4	135.5	107.9
1969	75.4	77.5	102.1	135.4	131.8	142.4	110.4
1970	73.0	74.6	98.2	134.6	131.8	140.1	114.6
1971	78.2	79.7	102.1	130.5	128.1	136.7	112.7
1972	84.5	85.2	115.1	136.2	135.1	144.6	115.6
1973	89.1	90.6	131.6	147.7	145.2	157.1	121.5
1974	85.1	85.2	121.9	143.3	143.0	155.2	117.9
1975	81.9	79.0	99.8	121.9	126.4	129.8	119.1
1976	83.6	81.2	103.5	123.8	127.5	133.9	114.6
1977	87.6	86.7	121.8	130.0	140.5	152.0	117.4
1978	89.4	88.5	130.9	146.5	147.9	159.3	124.6
1979	90.2	89.9	135.2	149.9	150.4	159.9	131.1
1980	90.5	90.5	128.7	142.2	142.2	147.0	132.9
1981	87.3	87.0	121.4	139.1	139.6	145.0	128.7
1982	88.9	86.6	112.5	126.6	129.9	130.9	126.0
1983	92.9	91.2	111.6	120.4	122.6	124.5	119.1
1984	93.8	93.5	115.6	123.2	123.6	124.5	122.0
1985	96.5	96.0	106.7	113.7	114.3	116.5	110.1
1986	96.3	95.9	104.9	108.9	109.4	110.6	107.2
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	110.0	113.3	104.8	95.1	92.5	90.6	97.3
1989	110.1	112.1	106.0	96.3	94.6	92.5	100.0
1990	111.9	113.0	103.5	92.5	91.6	86.2	100.0
1991	109.0	111.0	94.6	86.8	85.2	80.2	96.0
Average annual percent change:							
1963-91	2.0	2.0	1.2	-8	-8	-1.2	.2
1973-91	1.1	1.1	-1.8	-2.9	-2.9	-3.7	-1.2

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

**Table 127. Motors and generators (SIC 3621): Indexes of output per hour and related measures, 1967-92**  
(1967 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1967	77.2	78.7	119.1	154.2	151.3	151.0	151.6
1968	79.2	81.6	119.8	151.3	146.6	146.2	146.1
1969	79.8	82.6	121.2	151.9	146.9	146.4	147.3
1970	77.8	78.7	109.6	140.8	139.2	138.6	141.2
1971	84.1	85.7	107.7	128.1	125.6	124.2	130.4
1972	85.0	87.1	105.6	124.3	121.2	122.5	118.6
1973	89.3	90.6	122.1	136.7	134.6	139.7	119.3
1974	88.9	89.0	119.6	134.5	134.4	137.6	124.1
1975	82.7	82.6	90.8	109.6	109.9	107.2	118.1
1976	85.1	84.8	103.0	121.0	121.5	125.2	110.2
1977	88.8	89.1	115.8	130.4	130.0	131.4	125.3
1978	88.0	87.9	125.2	142.2	142.4	145.1	132.9
1979	88.1	88.6	127.4	144.6	143.5	144.6	140.2
1980	85.7	86.0	108.6	126.7	126.3	123.2	135.2
1981	89.1	88.6	111.3	124.9	125.4	124.4	127.6
1982	90.9	88.1	99.3	109.3	112.7	108.0	127.6
1983	91.9	89.9	97.0	105.6	107.9	106.4	112.1
1984	94.4	94.6	107.1	113.4	113.0	112.1	115.3
1985	95.9	95.3	99.3	103.5	104.2	102.4	106.3
1986	96.9	96.6	98.0	101.1	101.5	98.3	111.0
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	103.9	105.6	106.4	104.3	102.7	104.8	96.1
1989	103.4	105.0	106.5	103.0	101.4	104.2	92.2
1990	102.6	103.0	98.4	95.9	95.5	97.2	90.2
1991	105.3	106.6	95.8	91.9	90.8	91.2	89.8
1992 <sup>1</sup>	104.6	106.4	94.8	90.6	89.1	90.0	86.3
Average annual percent change:							
1964-92	2.3	2.3	.9	-1.3	-1.4	-1.3	-1.7
1973-91	.9	.9	-1.3	-2.2	-2.2	-2.3	-1.6

<sup>1</sup> Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

**Table 128. Major household appliances (SIC 3631, 3632, 3633, 3639): Indexes of output per hour and related measures, 1967-92**  
(1967 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1967	40.3	48.7	66.2	134.2	135.9	133.5	145.8
1968	51.9	52.2	73.4	141.4	140.5	139.6	144.4
1969	53.7	53.2	73.4	136.7	138.0	135.7	147.8
1970	52.4	52.4	70.7	135.0	134.9	132.4	146.6
1971	59.9	59.8	66.9	111.7	111.8	109.3	123.2
1972	65.7	65.5	77.6	118.2	118.4	117.2	122.5
1973	66.7	66.4	84.4	126.5	127.2	126.4	130.0
1974	66.9	64.8	75.7	113.1	116.8	114.2	127.3
1975	70.0	67.2	89.8	99.7	103.8	100.3	120.6
1976	72.1	70.3	77.7	107.8	110.6	106.7	126.1
1977	74.7	73.3	87.8	117.5	119.8	118.1	128.1
1978	75.0	71.9	91.4	121.9	127.2	126.0	132.0
1979	81.1	78.9	93.6	115.4	118.7	117.0	126.6
1980	79.0	75.9	85.2	107.9	112.2	110.2	121.8
1981	80.3	77.2	85.2	106.1	110.3	108.3	115.7
1982	81.1	76.6	73.2	90.3	95.6	91.7	113.6
1983	87.2	86.5	85.5	98.1	98.8	97.2	106.1
1984	90.8	90.5	95.4	105.1	105.4	106.0	102.7
1985	93.0	91.6	90.9	97.7	99.2	98.2	104.1
1986	97.4	96.5	96.3	98.9	99.8	99.8	100.0
1987	100.0	100.0	103.0	100.0	100.0	100.0	100.0
1988	103.0	101.4	101.8	98.8	100.4	101.1	97.3
1989	104.4	106.2	101.2	96.9	95.3	95.9	92.5
1990	102.6	102.6	93.4	91.0	91.0	91.6	88.4
1991	106.5	105.1	90.2	86.3	85.8	86.3	83.6
1992 <sup>1</sup>	112.9	114.4	100.1	88.7	87.5	88.1	84.9
Average annual percent change:							
1968-92	4.1	4.1	3.1	-1.0	-1.0	-3.8	-1.9
1973-91	2.5	2.6	.4	-2.1	-2.2	-2.1	-2.4

<sup>1</sup> Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

**Table 129. Household cooking equipment (SIC 3631): Indexes of output per hour and related measures, 1967-92**  
(1967 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1967	44.2	43.8	40.8	92.3	93.2	94.8	88.1
1968	48.0	48.5	46.8	97.8	96.4	96.8	88.1
1969	50.1	50.2	49.5	98.9	98.7	99.4	96.1
1970	48.6	48.7	48.3	99.4	99.1	99.9	96.1
1971	53.1	53.7	52.5	98.9	97.8	98.2	96.1
1972	56.7	57.8	61.5	108.4	106.4	109.0	98.1
1973	60.0	61.1	70.3	117.1	115.0	117.8	106.0
1974	62.1	59.8	60.6	97.6	101.4	99.9	106.0
1975	69.2	66.1	56.3	81.3	85.2	82.9	92.1
1976	71.3	70.2	74.0	103.8	105.4	102.3	116.1
1977	70.8	69.5	80.6	113.9	118.0	113.1	126.1
1978	71.1	68.4	87.4	123.0	127.8	127.9	128.3
1979	77.0	76.4	101.6	132.0	132.9	127.9	150.0
1980	73.6	74.8	95.9	130.3	128.2	124.9	140.2
1981	74.8	76.2	95.0	127.0	124.7	123.6	128.3
1982	79.7	78.0	82.2	103.1	108.2	100.6	134.0
1983	82.9	83.8	101.4	122.3	121.0	116.6	136.2
1984	87.6	88.5	112.0	127.9	126.5	127.3	124.0
1985	87.2	88.3	95.4	109.4	110.5	109.5	114.1
1986	98.4	96.8	98.2	99.8	101.4	100.0	106.0
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	102.2	100.6	100.1	97.9	99.5	102.4	90.0
1989	108.0	108.0	98.6	91.3	91.3	94.1	82.0
1990	103.9	104.3	91.5	88.1	87.7	90.5	78.0
1991	107.1	103.9	87.1	81.5	84.0	87.6	72.0
1992 <sup>1</sup>	121.7	119.6	99.4	81.7	83.1	85.8	74.0
Average annual percent change:							
1968-92	3.7	3.6	3.6	-1	.0	.1	-3
1973-91	3.3	3.0	1.2	-2.0	-1.7	-1.6	-2.1

<sup>1</sup> Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

**Table 130. Household refrigerators and freezers (SIC 3632): Indexes of output per hour and related measures, 1967-92**  
(1967 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1967	51.9	51.8	106.8	205.9	206.3	203.2	221.9
1968	54.3	55.4	118.1	217.3	213.3	211.2	224.3
1969	56.8	57.4	114.2	201.2	198.9	194.9	219.4
1970	55.0	56.1	106.5	193.6	190.0	186.1	209.8
1971	66.9	67.2	85.0	127.1	126.4	125.0	134.0
1972	73.5	74.5	98.8	134.4	132.7	132.4	134.0
1973	73.2	74.0	100.8	137.7	136.2	134.2	146.1
1974	74.1	75.0	95.5	128.8	127.3	123.8	146.1
1975	72.5	71.0	94.9	130.9	133.6	127.9	163.3
1976	72.0	70.5	91.9	127.6	130.3	125.0	158.3
1977	76.6	76.3	106.2	138.7	139.1	138.1	146.1
1978	75.3	73.4	109.1	144.8	148.6	148.6	148.8
1979	86.0	83.7	94.1	109.4	112.4	114.1	104.9
1980	87.8	81.3	86.0	98.0	105.8	106.6	102.2
1981	90.1	82.4	86.9	96.5	105.4	106.0	102.2
1982	89.0	84.2	73.4	82.5	87.2	85.2	97.6
1983	87.3	96.7	79.1	81.3	81.8	81.0	85.4
1984	87.2	94.5	88.3	90.8	93.4	94.5	87.8
1985	104.0	101.2	87.7	84.3	86.7	85.2	95.0
1986	101.2	100.9	93.8	92.7	93.0	93.0	92.7
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	102.7	102.5	107.7	104.9	105.1	104.2	109.8
1989	107.1	112.0	109.9	102.6	98.1	95.8	109.8
1990	107.6	107.0	98.2	91.3	91.8	88.9	107.3
1991	112.5	116.7	99.0	86.0	84.8	82.4	97.6
1992 <sup>1</sup>	117.5	124.0	111.5	94.9	89.9	88.9	95.1
Average annual percent change:							
1958-92	4.5	4.6	2.8	-1.8	-1.7	-1.8	-2.2
1973-91	2.4	2.6	-1	-2.5	-2.6	-2.7	-2.2

<sup>1</sup> Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

**Table 131. Household laundry equipment (SIC 3633): Indexes of output per hour and related measures, 1967-92**  
(1967 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1967	52.1	50.4	86.9	126.3	132.8	126.2	169.1
1968	53.6	52.5	73.8	137.8	140.7	136.1	165.3
1969	54.0	51.3	74.4	137.8	144.9	140.3	169.1
1970	55.1	53.8	70.8	126.6	132.1	126.2	165.3
1971	60.9	60.7	78.6	125.8	126.2	120.4	157.7
1972	64.7	63.1	89.1	137.8	141.2	137.5	161.6
1973	64.8	67.0	95.9	139.3	143.1	139.7	161.6
1974	69.0	60.7	82.1	124.3	135.3	130.5	161.6
1975	72.8	67.3	69.7	95.7	103.8	99.2	126.8
1976	76.9	72.8	77.1	100.4	105.9	101.2	130.8
1977	77.8	74.1	86.0	110.5	116.1	112.6	134.6
1978	79.6	75.2	88.2	110.8	117.3	114.3	134.6
1979	84.2	80.0	96.3	114.4	120.4	118.3	130.6
1980	79.3	74.2	85.2	107.4	114.9	111.2	134.6
1981	80.8	75.2	85.1	105.3	113.1	110.6	126.8
1982	82.0	74.4	73.5	89.6	88.8	95.1	119.2
1983	87.6	83.9	80.9	92.4	96.4	96.5	96.1
1984	82.2	90.2	90.2	97.8	100.0	100.0	100.0
1985	82.9	89.6	92.4	96.5	103.1	102.2	107.6
1986	97.0	96.6	100.7	103.8	104.2	104.3	103.8
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	106.6	102.6	102.0	95.7	99.4	100.0	96.2
1989	100.8	100.2	99.6	98.8	99.4	100.7	92.3
1990	103.8	104.4	100.6	96.9	96.4	98.6	84.6
1991	111.4	111.8	98.4	88.3	88.0	87.9	88.5
1992 <sup>1</sup>	132.3	131.7	106.4	80.4	80.8	78.0	96.2
Average annual percent change:							
1958-92	4.4	4.3	2.5	-1.8	-1.7	-1.4	-2.8
1973-91	2.7	2.9	1	-2.5	-2.7	-2.5	-3.3

<sup>1</sup> Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

**Table 132. Household appliances, not elsewhere classified (SIC 3639): Indexes of output per hour and related measures, 1967-92**  
(1987 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1967	51.5	52.3	43.9	85.3	83.9	76.3	117.1
1968	55.2	55.9	47.1	85.3	84.3	78.6	110.2
1969	55.7	55.4	48.2	86.6	87.0	80.2	117.1
1970	53.5	53.2	52.6	98.3	98.8	92.3	127.4
1971	58.0	57.1	52.8	91.1	92.5	85.6	124.1
1972	68.9	67.8	58.5	86.3	87.7	81.6	113.7
1973	64.8	62.2	70.0	108.0	112.5	110.7	126.6
1974	64.2	61.6	62.8	97.8	102.0	100.7	106.9
1975	67.7	65.6	54.5	80.5	83.1	78.6	103.3
1976	70.7	68.6	63.1	89.2	90.6	87.7	103.3
1977	76.0	75.3	73.9	97.2	98.1	97.7	99.9
1978	78.5	73.8	75.8	96.5	102.7	99.9	113.7
1979	78.1	74.9	81.1	103.9	106.3	107.0	113.7
1980	75.4	72.2	70.8	83.9	88.1	96.2	106.9
1981	76.3	74.0	71.3	93.4	96.4	94.8	103.3
1982	72.0	69.8	61.7	85.7	86.7	87.0	96.5
1983	79.8	80.0	78.5	98.4	98.1	99.2	93.1
1984	85.5	87.7	88.8	103.8	101.2	103.8	89.8
1985	86.8	88.1	88.1	101.5	100.0	100.9	96.5
1986	90.2	88.9	92.7	102.8	104.3	106.2	96.5
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	100.7	100.0	95.0	94.3	95.0	95.4	93.1
1989	98.5	100.4	92.3	93.7	91.9	93.1	86.2
1990	91.2	91.4	81.1	88.9	88.7	90.1	82.8
1991	81.6	81.9	71.7	87.9	87.5	89.3	79.3
1992 <sup>1</sup>	78.7	79.2	76.7	97.5	96.9	100.8	79.3
Average annual percent change:							
1968-92	2.6	2.6	2.8	.2	.2	.9	-2.0
1973-91	1.3	1.5	.1	-1.1	-1.4	-1.2	-2.3

<sup>1</sup> Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

**Table 133. Electric lamps (SIC 3641): Indexes of output per hour and related measures, 1967-92**  
(1987 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1967	61.5	60.3	85.0	138.2	141.0	145.2	116.3
1968	63.8	63.0	89.3	146.7	148.2	153.0	121.7
1969	62.9	61.6	90.8	144.3	147.3	151.2	124.4
1970	62.1	61.8	91.1	146.7	147.3	152.5	116.3
1971	61.5	60.7	90.7	147.4	148.5	154.3	121.7
1972	65.4	65.5	102.6	157.0	156.7	162.5	124.4
1973	63.5	63.7	106.4	170.7	170.3	177.0	129.7
1974	63.3	62.1	99.6	157.3	160.4	164.5	135.2
1975	67.9	67.0	91.6	134.9	136.7	139.4	121.7
1976	72.4	73.4	104.0	143.6	141.7	144.9	124.4
1977	70.3	70.8	103.0	146.5	145.5	148.8	127.1
1978	72.1	73.5	106.2	147.2	144.5	148.0	124.4
1979	74.1	74.8	109.8	148.1	148.8	151.4	118.9
1980	72.6	71.9	100.4	138.3	139.6	143.6	116.3
1981	75.2	75.4	94.6	125.8	125.4	128.1	110.8
1982	76.7	76.0	88.0	114.8	115.8	119.0	97.6
1983	87.3	90.5	96.1	110.1	106.2	108.7	92.7
1984	91.9	93.9	103.2	112.3	109.9	111.7	100.0
1985	86.7	86.9	96.7	109.0	108.8	110.0	102.4
1986	91.0	91.3	94.7	104.1	103.7	103.5	104.9
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	105.6	106.8	106.8	101.1	100.0	100.9	95.1
1989	113.7	113.9	108.1	95.1	94.9	95.2	82.7
1990	119.1	120.4	106.2	89.2	88.2	88.3	87.8
1991	126.7	131.9	106.2	82.5	80.5	79.7	85.4
1992 <sup>1</sup>	145.9	151.9	117.3	80.4	77.2	76.2	82.9
Average annual percent change:							
1968-92	3.2	3.4	2.7	-5	-7	-8	-2
1973-91	4.0	4.1	-1	-4.0	-4.1	-4.3	-2.3

<sup>1</sup> Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

**Table 134. Lighting fixtures and equipment (SIC 3645, 3646, 3647, 3648): Indexes of output per hour and related measures, 1967-92**  
(1967=100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1967	96.3	95.9	96.7	95.5	96.1	91.4	71.6
1968	98.2	98.8	91.0	89.4	88.7	93.6	75.5
1969	71.7	71.4	68.5	95.5	95.9	100.9	81.8
1970	70.0	68.7	63.6	91.2	91.6	95.0	82.4
1971	74.9	73.3	60.2	88.4	90.3	94.9	77.9
1972	81.2	81.0	77.1	94.9	95.2	100.4	81.8
1973	83.9	82.9	83.5	98.5	100.7	107.5	82.4
1974	80.9	78.9	71.1	87.9	90.1	93.8	80.4
1975	78.9	77.3	58.3	74.2	78.7	78.1	73.0
1976	85.2	82.4	68.9	80.9	83.6	87.6	72.5
1977	89.6	87.0	77.2	86.2	86.7	91.1	82.4
1978	89.9	87.2	81.2	90.3	93.1	96.7	83.3
1979	84.6	82.5	81.6	96.4	98.9	101.6	91.2
1980	83.5	81.2	75.6	90.8	93.4	94.2	91.2
1981	79.4	78.0	73.1	92.1	93.7	94.0	83.1
1982	81.5	79.1	69.6	85.6	88.2	88.5	87.3
1983	85.2	84.9	77.6	90.0	91.4	94.2	84.4
1984	91.8	90.6	83.5	91.0	92.2	95.5	83.3
1985	96.4	94.0	86.4	89.6	91.9	94.2	85.9
1986	102.7	101.6	94.1	91.6	92.6	92.7	92.1
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	98.1	96.7	100.6	102.6	101.9	101.8	102.1
1989	95.9	95.9	99.1	103.3	103.3	103.2	103.7
1990	94.4	94.0	92.9	98.4	98.8	98.4	100.0
1991	92.4	92.4	84.9	91.9	91.9	90.9	94.7
1992 <sup>1</sup>	93.0	93.5	86.4	92.9	92.4	91.6	94.7
Average annual percent change:							
1967-92	1.7	1.8	2.9	1.2	1.1	.8	3.0
1973-91	.5	.6	.1	-.4	-.5	-.3	.8

<sup>1</sup> Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

**Table 135. Household audio and video equipment (SIC 3651): Indexes of output per hour and related measures, 1967-92**  
(1967=100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1967	23.5	23.2	87.9	374.6	376.1	406.9	280.4
1968	25.0	24.9	90.9	362.9	364.4	388.6	282.0
1969	24.1	24.2	82.7	342.8	341.8	356.6	283.3
1970	24.9	24.9	72.4	290.7	290.6	289.5	291.6
1971	26.2	26.1	76.1	291.0	291.2	296.7	271.0
1972	31.0	30.8	86.4	278.4	280.1	295.5	238.6
1973	31.0	30.5	91.0	293.3	298.4	317.4	234.0
1974	30.8	29.3	83.0	269.7	263.7	281.3	257.3
1975	31.8	30.8	68.7	215.6	222.9	221.3	225.8
1976	35.8	34.8	80.6	226.6	231.8	227.4	242.2
1977	35.3	34.3	82.9	234.9	241.5	243.8	232.6
1978	39.9	38.5	95.6	239.4	248.4	243.3	262.6
1979	41.8	41.2	91.3	218.3	221.6	216.2	236.8
1980	41.2	41.1	86.4	209.6	210.3	201.8	236.8
1981	47.2	46.3	90.7	192.1	196.1	188.9	218.9
1982	57.8	56.2	88.0	152.2	156.7	149.9	177.9
1983	70.1	72.1	105.7	150.7	146.7	137.6	175.3
1984	85.9	86.0	137.2	153.9	153.9	152.0	188.7
1985	91.8	91.8	134.1	148.0	146.1	142.7	198.0
1986	103.9	104.8	152.8	148.9	145.6	142.7	153.4
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	110.9	111.1	111.1	100.2	100.0	100.5	99.0
1989	123.2	121.5	127.6	103.6	105.0	108.0	99.0
1990	134.4	135.0	136.1	101.3	100.8	100.2	101.9
1991	141.8	139.9	138.4	97.8	98.9	95.8	105.3
1992 <sup>1</sup>	162.6	162.6	155.8	96.8	95.8	92.7	101.9
Average annual percent change:							
1968-92	7.3	7.3	4.8	-2.4	-2.4	-2.3	-1.9
1973-91	8.8	8.8	2.4	-5.9	-6.0	-6.4	-4.3

<sup>1</sup> Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

**Table 136. Motor vehicles and equipment (SIC 371): Indexes of output per hour and related measures, 1967-92**  
(1967 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1967	94.9	93.5	90.7	92.4	94.7	93.5	95.4
1968	99.4	98.9	91.7	103.9	101.5	101.7	100.6
1969	98.4	98.1	91.5	105.3	105.9	105.6	106.1
1970	95.9	93.9	89.9	99.3	92.9	90.3	101.0
1971	94.9	93.5	92.6	99.5	99.5	97.9	100.6
1972	91.1	88.3	89.4	103.5	101.6	100.9	103.6
1973	97.9	95.1	99.5	117.0	113.4	112.7	115.5
1974	95.1	93.1	96.6	102.3	105.5	102.7	114.9
1975	99.6	96.8	91.5	98.4	92.1	90.0	99.0
1976	94.4	93.8	97.8	104.3	102.4	102.0	103.5
1977	99.2	92.6	90.5	114.2	109.5	109.0	110.3
1978	98.9	91.1	94.2	119.5	116.2	116.0	115.7
1979	97.5	96.3	97.3	112.7	114.4	113.5	117.3
1980	91.9	89.2	93.1	97.7	91.2	95.3	110.9
1981	93.9	92.1	95.9	99.2	91.2	97.1	105.2
1982	98.9	94.4	90.1	99.2	90.9	96.0	97.2
1983	96.6	96.3	96.9	99.9	97.1	94.4	96.1
1984	90.9	94.2	93.7	103.1	99.5	98.6	102.4
1985	95.0	96.0	100.0	105.3	102.0	101.7	103.0
1986	94.7	95.9	96.5	101.9	100.7	99.5	104.6
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	102.9	105.7	104.5	101.9	99.9	99.2	99.0
1989	102.6	105.3	104.5	101.9	99.2	98.6	101.0
1990	102.0	102.6	96.2	94.3	93.9	91.7	101.2
1991	96.3	96.2	97.6	91.0	91.1	89.4	97.2
1992 <sup>1</sup>	104.1	104.1	97.2	93.4	93.4	91.9	98.3
Average annual percent change:							
1967-92	2.9	3.0	3.1	.2	.1	.1	.3
1973-91	2.0	1.9	.5	-1.4	-1.2	-1.3	-1.0

<sup>1</sup> Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from company records, the Motor Vehicle

Manufacturers Association of the U.S., Inc.; the Gousha/Times Mirror Company (Automobile Invoice Service); Ward's Communications, Inc. (Ward's Automotive Yearbooks); the Bureau of the Census; and the Bureau of Labor Statistics. Employment and hours based on data from the Bureau of Labor Statistics and company records.

**Table 137. Aircraft (SIC 3721): Indexes of output per hour and related measures, 1972-92**  
(1967 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1972	98.4	97.0	94.0	98.9	90.9	91.2	72.0
1973	92.2	90.4	87.9	92.5	94.3	95.2	75.5
1974	93.9	92.3	91.0	94.7	96.3	97.0	77.6
1975	94.0	93.6	98.7	91.9	92.2	98.6	77.0
1976	92.6	92.0	94.7	98.3	98.9	93.1	75.5
1977	91.5	91.3	99.3	95.7	95.9	98.2	74.0
1978	95.9	95.9	97.8	90.9	90.9	94.2	79.3
1979	100.0	100.4	96.7	93.9	93.5	104.3	94.9
1980	101.0	100.8	98.8	97.9	99.0	109.2	89.0
1981	101.9	101.0	97.6	95.9	96.6	105.0	89.9
1982	98.9	97.6	97.6	98.6	99.9	90.9	89.9
1983	98.5	97.3	94.6	94.3	95.5	92.7	87.9
1984	93.5	92.7	91.0	95.0	95.9	90.6	90.2
1985	92.4	91.7	93.9	90.7	91.4	95.2	96.4
1986	92.4	92.3	97.9	95.0	95.1	92.1	97.5
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	103.0	102.9	106.4	103.3	103.4	101.9	104.6
1989	106.7	105.9	113.5	106.4	107.2	105.2	109.9
1990	106.2	105.9	113.2	106.6	106.9	103.1	109.9
1991	124.5	123.6	123.4	99.1	99.9	95.3	103.4
1992 <sup>1</sup>	125.2	124.4	115.9	92.6	93.2	90.9	99.4
Average annual percent change:							
1972-92	3.1	3.1	3.9	.9	.7	-.3	1.5
1973-91	2.3	2.4	3.4	1.0	.9	.0	1.8

<sup>1</sup> Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of Labor Statistics, the Bureau

Economic Analysis, U.S. Department of Commerce, the Federal Aviation Administration, U.S. Department of Transportation, and the Bureau of the Census. Employment and hours based on data from the Bureau of Labor Statistics.



**Table 138. Instruments to measure electricity (SIC 3825): Indexes of output per hour and related measures, 1972-91**  
(1967 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1972	63.7	63.4	40.7	63.9	64.2	78.6	48.7
1973	68.4	67.8	47.8	69.9	70.5	88.5	51.8
1974	69.3	67.0	53.4	77.1	79.7	99.2	58.9
1975	72.0	68.1	48.7	67.6	71.5	85.9	56.2
1976	71.9	69.2	49.8	69.0	71.7	85.9	56.7
1977	75.3	72.8	56.8	75.4	78.0	92.0	63.2
1978	76.0	73.4	66.0	86.8	89.9	103.9	75.1
1979	75.5	74.1	73.6	97.5	96.3	110.1	87.6
1980	81.6	79.4	87.3	107.0	111.4	119.4	103.1
1981	84.2	80.8	89.9	106.8	111.3	114.4	108.0
1982	89.7	85.3	89.8	100.1	105.3	111.4	98.8
1983	91.5	87.1	91.7	100.2	105.3	112.7	97.3
1984	100.6	96.5	106.4	107.8	112.3	120.6	103.8
1985	98.3	94.4	102.2	104.0	108.3	109.9	106.8
1986	92.0	90.3	91.4	99.3	101.2	100.9	101.5
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	106.5	104.5	101.7	95.5	97.3	95.9	98.8
1989	109.3	106.3	97.8	89.5	92.0	90.2	93.9
1990	108.0	105.4	97.0	89.8	92.0	88.2	96.1
1991	111.8	113.8	92.5	82.9	81.3	77.4	85.5
Average annual percent change:							
1972-91	3.0	3.1	4.4	1.4	1.5	-1	3.0
1973-91	2.8	2.9	3.7	1.0	.8	-1.7	2.8

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

**Table 139. Photographic equipment and supplies (SIC 3861): Indexes of output per hour and related measures, 1967-91**  
(1967 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1967	48.7	47.1	45.3	93.1	98.2	122.4	76.1
1968	50.4	48.8	48.3	95.8	99.3	124.0	80.3
1969	53.6	52.1	53.7	100.1	103.1	127.0	84.7
1970	51.7	50.3	52.5	101.5	104.4	126.2	87.7
1971	55.4	52.9	55.2	99.7	104.4	122.8	90.2
1972	63.6	61.2	66.7	104.9	108.0	128.2	93.8
1973	68.8	66.1	76.5	111.2	115.8	138.5	97.5
1974	73.3	69.3	83.7	114.2	120.8	145.8	101.5
1975	71.2	68.6	75.0	108.3	112.8	129.5	99.5
1976	76.1	72.4	84.1	110.5	116.1	136.7	106.1
1977	76.8	73.4	88.7	115.5	120.8	141.7	104.7
1978	85.4	81.3	99.8	118.9	122.7	143.9	106.1
1979	91.9	88.7	110.5	120.3	124.6	143.9	109.9
1980	84.4	81.7	102.1	120.9	125.0	143.0	111.2
1981	83.4	80.9	103.1	123.6	127.5	144.2	114.5
1982	82.4	79.7	100.8	125.9	130.2	146.2	117.9
1983	90.7	88.4	104.9	116.0	118.6	129.1	110.5
1984	93.0	92.3	106.2	114.2	115.0	126.8	105.9
1985	90.3	90.0	102.5	113.6	113.9	121.8	107.9
1986	97.1	95.8	101.7	104.7	108.7	111.4	102.4
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	106.3	106.2	107.9	101.5	101.8	101.5	101.5
1989	113.7	113.3	110.9	97.5	97.9	99.0	97.3
1990	109.5	107.7	99.5	90.9	92.4	92.5	92.3
1991	110.8	109.8	100.3	90.7	91.3	93.6	89.5
Average annual percent change:							
1967-91	3.5	3.6	3.4	-1	-2	-1.1	7
1973-91	2.7	2.9	1.5	-1.1	-1.3	-2.2	1

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of the Census and the Bureau of Labor Statistics. Employment and hours based on data from the Bureau of Labor Statistics.

**Table 140. Railroad transportation, revenue traffic (SIC 4011): indexes of output per hour and related measures, 1967-92**  
(1967=100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1967	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1968	98.2	98.7	99.3	99.5	99.4	99.0	99.2
1969	96.2	96.1	96.6	96.4	96.8	96.1	97.0
1970	97.0	96.3	95.3	95.7	95.7	95.4	95.7
1971	98.1	98.3	98.6	98.5	98.6	98.9	98.4
1972	98.6	98.9	99.1	99.2	99.0	99.0	99.7
1973	98.7	97.6	94.3	95.1	98.1	98.5	98.4
1974	95.4	96.7	92.6	95.4	98.2	98.2	98.6
1975	93.4	93.7	90.2	94.8	98.4	98.6	98.7
1976	93.2	97.0	96.5	97.2	98.9	98.6	98.2
1977	98.5	98.4	91.4	98.6	98.2	98.9	98.8
1978	90.6	91.5	93.5	94.8	98.4	98.9	98.1
1979	90.7	92.0	95.0	97.2	98.7	98.1	98.9
1980	92.0	92.1	92.4	97.7	97.4	97.8	98.0
1981	93.8	93.7	90.5	97.9	98.6	97.4	98.3
1982	98.0	94.3	79.7	94.2	98.7	98.6	98.6
1983	98.7	97.3	94.9	92.6	98.2	98.6	98.8
1984	73.9	73.0	92.7	92.4	97.0	97.3	98.4
1985	78.4	77.1	92.0	91.4	97.3	97.3	98.4
1986	96.1	93.7	92.9	97.9	97.0	97.8	98.4
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	106.7	110.3	106.4	96.1	95.6	96.2	98.2
1989	116.5	114.1	107.6	92.4	94.3	94.9	98.6
1990	122.4	119.3	107.6	87.9	90.2	90.6	97.7
1991	132.7	129.1	110.8	83.5	85.8	85.9	85.2
1992 <sup>1</sup>	140.2	139.2	115.5	82.4	83.0	83.0	83.3
Average annual percent change							
1947-92	5.0	4.6	5	-4.4	-3.9	-4.1	-2.4
1973-91	6.0	5.7	9	-4.8	-4.5	-4.7	-3.7

<sup>1</sup> Preliminary

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Interstate Commerce Commission; the

Association of American Railroads, the Federal Railroad Administration, U.S. Department of Transportation, and the National Railroad Passenger Corporation. Employment and hours based on data from the Interstate Commerce Commission.

**Table 141. Railroad transportation, car miles (SIC 4011): indexes of output per hour and related measures, 1967-92**  
(1967=100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1967	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1968	91.9	94.5	120.1	99.5	99.4	99.0	99.2
1969	93.1	95.7	120.2	99.4	99.8	99.1	99.7
1970	93.1	95.6	117.9	99.7	99.7	99.4	99.7
1971	95.0	95.1	114.8	99.5	99.8	99.9	99.4
1972	98.7	96.5	118.6	99.2	99.0	99.0	99.7
1973	90.5	91.7	122.2	99.2	99.1	99.5	99.4
1974	98.0	90.7	120.4	99.4	99.2	99.2	99.6
1975	98.7	98.2	108.0	98.8	98.4	98.6	98.7
1976	98.8	90.8	111.9	97.2	98.9	98.6	98.2
1977	98.7	90.8	112.6	98.6	98.2	98.9	98.8
1978	81.4	82.5	113.4	98.8	98.4	98.9	98.1
1979	81.4	82.9	114.9	98.2	98.7	98.1	98.9
1980	84.4	84.5	114.5	97.7	97.4	97.8	98.0
1981	84.1	87.9	107.7	97.9	98.6	97.4	98.3
1982	85.7	10.7	93.4	94.2	98.7	98.6	98.6
1983	76.9	75.0	95.0	92.6	98.2	98.6	98.8
1984	82.1	81.0	102.9	92.4	97.0	97.3	98.4
1985	82.8	81.5	97.2	91.4	97.3	97.3	98.4
1986	98.3	85.9	95.3	97.9	97.0	97.8	98.4
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	107.0	107.5	102.8	96.1	95.6	96.2	98.2
1989	110.7	106.5	102.3	92.4	94.3	94.9	98.6
1990	116.3	113.3	102.2	87.9	90.2	90.6	97.7
1991	120.0	115.8	100.2	83.5	85.8	85.9	85.2
1992 <sup>1</sup>	123.9	123.0	102.1	82.4	83.0	83.0	83.3
Average annual percent change							
1947-92	3.9	3.4	-7	-4.4	-3.9	-4.1	-2.4
1973-91	3.9	3.6	-1.1	-4.8	-4.5	-4.7	-3.7

<sup>1</sup> Preliminary

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Interstate Commerce Commission and the Association of American Railroads. Employment and hours based on data from the Interstate Commerce Commission.

**Table 142. Bus carriers, Class 1 (Parts of SIC 411, 412, 414): Indexes of output per hour and related measures, 1967-89**  
(1967 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees
Index:					
1967	126.4	127.9	206.1	163.0	161.2
1968	124.6	126.2	200.9	161.2	159.2
1969	121.0	121.9	194.1	160.4	159.2
1970	118.2	119.0	190.6	161.3	160.2
1971	115.3	114.0	179.0	155.2	157.0
1972	117.5	111.5	171.6	146.0	153.9
1973	116.8	113.5	164.4	140.7	144.6
1974	121.4	118.2	178.3	146.9	150.9
1975	106.9	103.4	160.8	130.4	155.5
1976	103.3	100.3	155.0	150.0	154.5
1977	110.1	105.6	154.0	139.9	145.9
1978	106.6	100.2	146.2	137.2	145.9
1979	108.3	104.1	156.0	144.0	149.9
1980	111.1	99.4	153.6	138.4	154.7
1981	99.9	91.0	141.7	141.8	155.7
1982	108.8	99.2	144.7	133.0	145.8
1983	104.9	96.1	126.9	121.0	129.4
1984	100.1	94.6	120.8	120.7	127.4
1985	96.1	93.1	112.6	117.2	121.0
1986	95.6	96.0	100.1	104.7	105.4
1987	100.0	100.0	100.0	100.0	100.0
1988	107.9	109.2	102.0	94.5	93.4
1989	104.6	106.0	106.0	101.3	100.0
Average annual percent change: 1954-89	.2	.1	-1.3	-1.5	-1.4

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Interstate

Commerce Commission, the American Bus Association, and the Bureau of Labor Statistics.

**Table 143. Trucking, except local (SIC 4213)<sup>1</sup>: Indexes of output per employee and related measures, 1967-89**  
(1967 = 100)

Year	Output per employee	Output	Employees
Index:			
1967	56.3	65.4	116.1
1968	59.8	72.1	120.5
1969	61.3	76.9	125.5
1970	60.1	74.1	123.2
1971	63.8	80.4	126.0
1972	66.1	90.9	133.4
1973	68.5	98.3	141.4
1974	67.2	95.6	142.3
1975	64.2	86.5	134.8
1976	72.2	98.7	136.7
1977	71.9	106.0	147.4
1978	82.9	104.0	125.4
1979	83.9	110.5	131.7
1980	77.5	93.6	120.8
1981	83.6	92.4	110.5
1982	77.7	87.0	112.0
1983	94.3	93.6	99.3
1984	97.3	105.7	108.6
1985	93.8	94.8	101.1
1986	96.8	97.7	100.9
1987	100.0	100.0	100.0
1988	105.2	100.8	95.6
1989	109.4	102.8	94.0
Average annual percent change: 1954-89	2.8	3.7	.8

<sup>1</sup> Class I and II common and contract carriers.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Based on data from the Interstate Commerce Commission; Trinc Transportation Consultants, a division of Dunn and Bradstreet, Inc.; and the American Trucking Associations.

**Table 144. Trucking, except local, general freight (SIC 4213 part)<sup>1</sup>: Indexes of output per employee and related measures, 1967-89**  
(1967 = 100)

Year	Output per employee	Output	Employees
Index:			
1967	51.9	77.5	149.3
1968	54.8	84.8	154.8
1969	55.8	89.2	160.4
1970	53.0	82.2	155.1
1971	56.0	87.3	155.8
1972	59.4	96.1	161.8
1973	63.4	106.8	168.5
1974	64.4	104.7	162.5
1975	61.0	90.9	148.9
1976	66.3	103.5	156.0
1977	69.0	112.7	163.3
1978	80.5	111.8	138.8
1979	80.4	115.4	143.5
1980	74.2	95.4	128.5
1981	81.0	96.1	118.6
1982	74.4	87.7	117.9
1983	93.8	94.9	101.2
1984	95.1	105.3	110.7
1985	91.0	95.1	104.5
1986	97.4	104.6	107.4
1987	100.0	100.0	100.0
1988	107.7	103.2	95.8
1989	108.1	102.5	94.8
Average annual percent change:			
1954-89	2.9	2.8	-1

<sup>1</sup> Class I and II common carriers of general freight.  
NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Based on data from the Interstate Commerce Commission, Trinc Transportation Consultants, a division of Dunn and Bradstreet, Inc., and the American Trucking Associations.

**Table 145. Air transportation (SIC 4512, 4513, 4522 part): Indexes of output per employee and related measures, 1967-92**  
(1967 = 100)

Year	Output per employee	Output	Employees
Index:			
1967	44.7	29.4	65.8
1968	46.6	33.9	72.7
1969	47.9	37.2	77.7
1970	49.0	37.8	77.2
1971	52.2	38.7	74.1
1972	57.5	42.5	73.9
1973	58.6	45.1	76.9
1974	59.4	45.2	76.1
1975	59.9	44.9	74.9
1976	65.4	49.5	75.7
1977	68.5	53.2	77.7
1978	74.9	60.6	80.9
1979	77.6	66.8	86.1
1980	72.8	64.4	88.5
1981	72.0	62.7	87.1
1982	78.8	64.9	82.4
1983	86.9	70.4	81.0
1984	90.4	76.6	84.7
1985	93.6	83.3	89.0
1986	94.5	90.6	95.9
1987	100.0	100.0	100.0
1988	96.5	105.1	108.9
1989	93.1	108.7	116.7
1990	89.6	113.5	126.7
1991	90.9	111.3	122.4
1992 <sup>1</sup>	94.1	118.5	125.9
Average annual percent change:			
1947-92	5.6	9.6	3.6
1973-91	2.5	5.1	2.6

<sup>1</sup> Preliminary.  
NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Based on data from the Research and Special Programs Administration, U.S. Department of Transportation.

**Table 146. Petroleum pipelines (SIC 4612, 4613): Indexes of output per hour and related measures, 1967-92**  
(1967 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees	
					All employees	Nonsupervisory workers
Index:						
1967	61.3	61.0	60.6	98.8	99.3	113.8
1968	64.9	64.3	63.2	97.4	98.3	111.7
1969	70.1	69.2	65.6	93.9	95.1	105.7
1970	75.2	74.5	69.6	92.6	93.4	102.1
1971	77.9	77.1	70.9	91.0	92.0	98.5
1972	87.7	86.2	78.6	87.3	88.9	95.6
1973	92.5	91.3	81.6	88.2	89.4	95.6
1974	89.6	88.5	81.4	90.6	92.0	98.5
1975	90.2	87.8	81.7	90.6	93.1	97.1
1976	90.1	89.5	84.2	93.5	94.1	96.2
1977	94.4	94.4	92.8	98.3	98.3	99.2
1978	96.0	95.5	99.5	103.6	104.2	103.6
1979	96.1	96.6	105.3	107.5	106.9	104.3
1980	87.9	88.2	99.9	113.6	113.3	110.9
1981	81.2	82.8	96.0	118.2	115.9	111.7
1982	84.3	85.7	97.1	115.2	113.3	107.3
1983	89.7	89.3	95.5	106.5	106.9	102.9
1984	99.4	96.2	97.7	98.3	101.6	96.5
1985	99.9	96.4	97.7	97.8	99.3	97.9
1986	102.0	102.6	99.1	97.2	96.6	97.1
1987	100.0	100.0	100.0	100.0	100.0	100.0
1988	104.8	105.0	103.3	98.6	98.4	94.2
1989	103.2	101.9	100.3	97.2	98.4	96.4
1990	102.6	102.0	100.4	97.9	98.4	99.3
1991	99.1	98.3	99.4	100.3	101.1	102.9
1992 <sup>1</sup>	98.3	97.1	98.2	99.9	101.1	105.1
Average annual percent change:						
1958-92	4.1	4.2	3.3	-8	-9	-1.3
1973-91	.4	.4	1.1	.7	.7	.4

<sup>1</sup> Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Oil and Gas Journal, Penn Well Publishing

Company; the American Petroleum Institute; the Association of Oil Pipe Lines; and the Interstate Commerce Commission. Employment and hours based on data from the Bureau of Labor Statistics and the Interstate Commerce Commission.

**Table 147. Telephone communications (SIC 481): Indexes of output per hour and related measures, 1967-92**  
(1967 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees
Index:					
1967	33.1	31.4	26.1	94.9	89.4
1968	35.2	33.8	30.4	86.3	90.0
1969	35.9	34.9	33.7	93.9	96.5
1970	36.2	34.4	36.0	99.4	104.5
1971	38.0	35.9	37.8	97.1	105.4
1972	40.8	38.9	41.2	101.1	105.9
1973	43.3	41.6	45.3	104.5	108.9
1974	45.6	43.9	48.7	106.7	110.9
1975	50.0	47.1	50.5	101.0	107.2
1976	54.4	51.2	54.1	99.4	105.6
1977	58.1	56.0	59.4	102.2	106.1
1978	61.6	59.7	65.9	107.0	110.3
1979	64.5	62.5	72.6	112.6	116.2
1980	68.6	66.7	79.2	115.4	118.8
1981	72.4	70.2	83.8	115.7	119.3
1982	75.2	72.3	85.9	114.2	118.8
1983	85.4	82.4	87.3	102.2	106.0
1984	86.0	84.0	88.8	103.2	105.7
1985	90.4	89.7	91.6	101.3	102.1
1986	97.2	97.2	95.2	97.9	97.9
1987	100.0	100.0	100.0	100.0	100.0
1988	105.3	105.1	105.0	99.7	99.9
1989	110.5	109.2	107.2	97.0	98.2
1990	110.7	109.4	110.7	100.0	101.2
1991	116.2	114.0	114.9	98.9	100.8
1992 <sup>1</sup>	122.0	120.5	118.5	97.1	98.3
Average annual percent change:					
1951-92	5.8	5.9	6.7	.9	.8
1973-91	5.6	5.8	5.3	-3	-4

<sup>1</sup> Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Federal Communications Commission. Employment and hours based on data from the Bureau of Labor Statistics.

**Table 148. Gas and electric utilities (SIC 491, 492, 493): indexes of output per hour and related measures, 1967-92**  
(1967 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees	
					All employees	Nonsupervisory workers
Index:						
1967	76.1	76.1	55.8	73.3	73.3	80.6
1968	81.5	81.6	60.7	74.5	74.4	81.9
1969	86.5	86.7	66.0	76.3	76.1	83.2
1970	89.2	89.4	69.9	78.4	78.2	85.5
1971	94.3	94.0	73.9	78.4	78.6	85.6
1972	97.6	98.0	78.8	80.7	80.4	87.2
1973	99.3	100.1	82.4	83.0	82.3	88.8
1974	97.4	97.5	81.7	83.9	83.8	89.8
1975	101.6	100.7	82.9	81.6	82.3	87.7
1976	104.8	104.0	85.7	81.8	82.4	87.1
1977	107.2	106.8	89.4	83.4	83.7	87.8
1978	105.4	106.2	92.5	87.8	87.1	90.3
1979	104.6	105.4	95.1	90.9	90.2	93.5
1980	103.2	104.1	96.4	93.4	92.6	96.1
1981	101.5	101.5	96.9	95.5	95.5	99.0
1982	95.8	96.1	94.3	98.4	98.1	100.7
1983	94.8	94.8	93.9	99.0	99.0	100.5
1984	98.2	98.5	98.6	100.4	100.1	100.8
1985	97.4	97.9	99.1	101.7	101.2	101.9
1986	96.7	97.3	98.2	101.5	100.9	101.4
1987	100.0	100.0	100.0	100.0	100.0	100.0
1988	105.0	105.2	104.5	99.5	99.3	99.0
1989	106.6	108.1	106.5	99.9	98.5	98.1
1990	106.3	106.9	106.5	100.2	99.6	99.5
1991	108.4	109.1	108.0	99.6	99.0	98.8
1992 <sup>1</sup>	109.9	111.0	108.6	98.8	97.8	96.8
Average annual percent change:						
1947-92	3.9	3.9	5.1	1.2	1.2	.7
1973-91	.5	.5	1.5	1.0	1.0	.6

<sup>1</sup> Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the American Gas Association; the Rural

Electrification Administration, U.S. Department of Agriculture; the Energy Information Administration, U.S. Department of Energy; and the Bureau of Labor Statistics. Employment and hours based on data from the Bureau of Labor Statistics.

**Table 149. Electric utilities (SIC 491, 493 part): indexes of output per hour and related measures, 1967-92**  
(1967 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees
Index:					
1967	64.8	64.8	42.2	65.1	65.0
1968	60.7	60.8	46.4	66.6	66.5
1969	73.9	74.4	50.9	68.9	68.4
1970	76.6	76.9	54.6	71.3	71.0
1971	80.9	81.2	58.2	71.9	71.7
1972	85.2	85.6	63.1	74.1	73.7
1973	88.0	88.3	66.1	77.4	76.3
1974	86.6	87.0	68.0	78.5	78.2
1975	92.3	91.4	70.3	78.2	76.9
1976	95.1	94.6	73.3	77.1	77.5
1977	99.6	99.4	78.5	78.8	79.0
1978	96.3	97.8	81.3	84.4	83.1
1979	95.0	96.2	83.3	87.7	86.6
1980	93.5	94.9	85.0	90.9	89.6
1981	92.7	92.9	85.8	92.6	92.4
1982	89.0	89.5	84.8	95.3	94.8
1983	90.5	90.7	87.3	96.5	96.2
1984	94.0	94.3	92.5	98.4	98.1
1985	93.0	93.9	94.1	101.2	100.2
1986	95.3	96.1	96.5	101.3	100.4
1987	100.0	100.0	100.0	100.0	100.0
1988	104.9	105.1	104.6	100.0	99.8
1989	107.7	109.0	107.7	100.0	98.8
1990	110.1	110.3	110.0	99.9	98.7
1991	113.4	113.4	112.5	98.2	98.2
1992 <sup>1</sup>	114.3	114.9	112.4	98.3	97.8
Average annual percent change:					
1958-92	3.6	3.6	5.0	1.4	1.3
1973-91	1.4	1.3	2.8	1.4	1.5

<sup>1</sup> Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Rural Electrification Administration, U.S.

Department of Agriculture, and the Energy Information Administration, U.S. Department of Energy. Employment and hours based on data from the Bureau of Labor Statistics.



**Table 150. Gas utilities (SIC 492, 493 part): Indexes of output per hour and related measures, 1967-92**  
(1967 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees
Index:					
1967	123.1	123.0	120.0	97.5	97.6
1968	130.6	130.3	127.6	97.7	97.9
1969	139.3	138.7	136.9	98.3	98.7
1970	141.9	141.9	141.2	99.5	99.5
1971	146.5	147.3	145.5	98.0	98.8
1972	149.5	149.2	149.5	100.0	100.2
1973	145.1	144.7	144.8	99.8	100.1
1974	141.6	140.8	141.6	100.0	100.6
1975	140.8	139.6	137.1	97.4	98.2
1976	144.0	142.4	137.8	95.7	96.8
1977	138.9	137.8	134.5	96.8	97.6
1978	140.9	139.9	138.5	98.3	99.0
1979	143.6	142.3	143.6	100.0	100.9
1980	141.8	140.6	142.8	100.7	101.6
1981	136.4	135.5	141.9	104.0	104.7
1982	123.6	122.9	132.6	107.3	107.9
1983	112.9	112.3	120.3	106.6	107.1
1984	118.1	116.3	123.2	106.1	105.9
1985	114.1	113.8	118.6	103.9	104.2
1986	102.9	102.2	105.4	102.4	102.1
1987	100.0	100.0	100.0	100.0	100.0
1988	105.4	105.6	103.3	98.0	97.8
1989	103.4	105.5	102.9	99.5	97.5
1990	94.7	96.6	95.9	101.3	99.3
1991	93.8	96.1	94.7	101.0	98.5
1992 <sup>1</sup>	94.8	97.3	97.1	102.4	99.8
Average annual percent change:					
1968-92	.6	.7	.9	.3	.1
1973-91	-2.4	-2.2	-2.3	.1	-.1

<sup>1</sup> Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the American Gas Association. Employment and hours based on data from the Bureau of Labor Statistics.

**Table 151. Scrap and waste materials (SIC 5093): Indexes of output per hour and related measures, 1977-91**  
(1987 = 100)

Year	Output per hour of all persons <sup>1</sup>	Output per person	Output	Hours of all persons	All persons
Index:					
1977	72.9	72.4	74.0	101.5	102.2
1978	80.8	80.5	80.6	99.8	100.1
1979	80.7	80.7	89.3	110.6	110.6
1980	79.0	77.3	96.0	108.9	111.3
1981	76.5	76.0	81.2	106.2	106.8
1982	75.1	73.1	68.4	91.1	93.6
1983	90.2	89.4	78.1	86.6	87.4
1984	89.1	88.2	84.9	95.3	96.3
1985	93.4	91.6	87.5	93.7	95.5
1986	97.7	97.1	91.8	94.0	94.5
1987	100.0	100.0	100.0	100.0	100.0
1988	98.2	95.7	109.0	111.0	113.9
1989	90.7	89.7	111.6	123.0	124.4
1990	106.4	104.6	118.9	111.7	113.7
1991	116.5	112.0	126.8	109.8	113.2
Average annual percent change:					
1977-91	3.3	3.2	3.9	.6	.7

<sup>1</sup> All persons include paid employees and the self-employed.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of Mines, U. S. Department of the Interior, and the American Paper Institute. Persons and hours based on data from the Bureau of Labor Statistics.

**Table 152. Hardware stores (SIC 5251): Indexes of output per hour and related measures, 1972-92**  
(1987 = 100)

Year	Output per hour of all persons <sup>1</sup>	Output per person	Output	Hours of all persons	All persons
Index:					
1972	86.6	91.5	75.5	87.2	82.5
1973	84.7	88.8	74.8	88.3	84.2
1974	81.7	85.1	73.9	90.5	86.8
1975	84.0	87.4	76.8	91.4	87.9
1976	82.4	88.6	79.0	95.9	89.2
1977	86.0	89.1	83.2	96.8	93.4
1978	85.1	90.1	86.5	100.5	96.0
1979	98.6	99.6	96.5	97.9	96.9
1980	95.9	95.7	93.5	97.5	97.7
1981	92.3	91.9	88.3	95.7	96.1
1982	93.8	93.4	86.2	91.9	92.3
1983	92.1	91.8	88.0	95.5	95.9
1984	97.0	98.7	98.4	101.4	101.8
1985	96.0	94.6	97.3	101.4	102.8
1986	101.7	99.9	99.8	98.1	99.9
1987	100.0	100.0	100.0	100.0	100.0
1988	108.8	105.9	105.6	97.1	99.7
1989	115.4	111.7	110.7	95.9	99.1
1990	110.5	107.5	107.4	97.2	99.9
1991	102.4	100.3	100.9	98.5	100.6
1992 <sup>2</sup>	109.9	108.6	107.9	98.2	99.4
Average annual percent change:					
1972-92	1.2	.9	1.8	.8	.9
1973-91	1.1	.7	1.7	.8	1.0

<sup>1</sup> All persons include paid employees, unpaid family workers, and the self-employed.

<sup>2</sup> Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of Economic Analysis and the Bureau of the Census, U.S. Department of Commerce; and the Bureau of Labor Statistics. Persons and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

**Table 153. Department stores (SIC 5311): Indexes of output per hour and related measures, 1967-92**  
(1987 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees
Index:					
1967	55.3	65.1	44.2	79.9	67.9
1968	56.4	65.6	47.3	83.9	72.1
1969	55.7	64.2	48.7	87.5	75.9
1970	55.6	63.6	49.3	88.6	77.5
1971	59.1	67.5	53.8	91.0	79.7
1972	59.9	68.6	58.1	97.0	84.7
1973	62.2	70.8	62.2	100.0	87.9
1974	60.9	68.7	59.9	98.4	87.2
1975	64.3	71.6	60.2	93.6	84.1
1976	67.8	74.3	63.9	94.3	86.0
1977	71.7	77.1	68.5	95.5	88.8
1978	73.9	77.9	73.1	98.9	93.8
1979	74.8	79.2	73.8	98.6	93.2
1980	74.5	77.8	72.4	97.2	93.0
1981	78.9	82.6	76.8	97.3	93.0
1982	80.6	84.6	77.2	95.8	91.3
1983	85.9	90.1	82.0	95.5	91.0
1984	91.1	94.2	89.8	98.6	95.3
1985	93.1	95.0	92.0	98.8	96.8
1986	97.7	98.4	96.8	99.1	98.4
1987	100.0	100.0	100.0	100.0	100.0
1988	99.5	99.3	101.9	102.4	102.6
1989	97.3	97.4	105.1	108.0	107.9
1990	95.0	96.0	105.3	110.8	109.7
1991	98.9	100.8	106.6	107.8	105.8
1992 <sup>1</sup>	103.2	108.0	112.8	109.3	104.4
Average annual percent change:					
1967-92	2.5	2.0	3.8	1.3	1.7
1973-91	2.6	2.0	3.0	.4	1.0

<sup>1</sup> Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

**Table 154. Variety stores (SIC 5331): Indexes of output per hour and related measures, 1967-92**  
(1967=100)

Year	Output per hour of all persons <sup>1</sup>	Output per person	Output	Hours of all persons	All persons
Index:					
1967	131.3	138.7	171.9	130.9	123.9
1968	138.1	143.8	179.8	130.2	125.0
1969	140.5	146.0	182.5	129.9	125.0
1970	148.4	154.9	182.6	131.6	124.3
1971	137.3	147.0	187.9	136.9	127.8
1972	147.0	157.6	199.1	135.4	128.3
1973	141.1	149.4	196.8	139.5	131.7
1974	139.4	144.2	187.0	134.1	129.7
1975	143.3	151.1	177.4	123.8	117.4
1976	124.7	129.0	151.3	121.3	117.3
1977	117.1	117.8	141.2	120.6	119.9
1978	117.7	116.0	139.1	118.2	119.9
1979	119.8	121.9	142.7	119.1	117.1
1980	126.1	126.9	133.4	105.8	105.1
1981	139.0	137.1	132.7	95.5	96.8
1982	132.3	133.0	127.9	96.7	96.2
1983	138.8	141.5	126.9	91.4	89.7
1984	141.7	142.9	129.9	91.7	90.9
1985	129.1	129.2	123.8	95.9	95.8
1986	106.6	107.0	107.7	101.0	100.7
1987	100.0	100.0	100.0	100.0	100.0
1988	97.2	96.5	98.8	99.5	99.5
1989	113.4	109.2	94.5	83.3	86.5
1990	131.8	128.8	90.8	68.9	70.5
1991	130.0	125.7	85.7	65.1	68.2
1992 <sup>2</sup>	117.8	115.9	80.2	68.9	69.2
Average annual percent change:					
1967-92	-4	-7	-3.0	-2.6	-2.3
1973-91	-5	-1.0	-4.5	-4.1	-3.6

<sup>1</sup> All persons include paid employees, unpaid family workers, and the self-employed.

<sup>2</sup> Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of Economic Analysis and the Bureau of the Census, U.S. Department of Commerce; and the Bureau of Labor Statistics. Persons and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

**Table 155. Food stores (SIC 54): Indexes of output per hour and related measures, 1967-92**  
(1967=100)

Year	Output per hour of all persons <sup>1</sup>	Output per person	Output	Hours of all persons	All persons
Index:					
1967	102.2	120.5	74.2	72.6	81.6
1968	107.9	124.5	77.8	72.1	82.5
1969	108.6	123.3	79.3	73.0	84.3
1970	114.8	129.4	84.1	73.4	85.0
1971	115.5	129.4	85.3	74.0	85.9
1972	114.2	128.9	86.8	75.8	87.2
1973	109.8	123.6	84.4	76.9	88.3
1974	105.1	116.3	82.6	78.6	71.0
1975	106.0	115.2	83.3	78.8	72.3
1976	108.1	118.8	87.1	80.6	73.3
1977	107.3	116.6	87.2	81.3	74.8
1978	102.9	111.1	87.8	85.3	79.0
1979	105.3	111.8	90.2	85.7	80.7
1980	107.5	111.1	92.2	85.8	83.0
1981	104.2	107.3	91.8	87.9	85.4
1982	102.2	105.1	91.4	89.4	87.0
1983	102.1	104.5	93.0	91.1	89.0
1984	102.4	103.9	94.9	92.7	91.3
1985	102.4	102.3	96.8	94.5	94.6
1986	102.0	101.0	98.7	96.8	97.7
1987	100.0	100.0	100.0	100.0	100.0
1988	98.1	97.7	100.6	102.5	103.0
1989	95.4	94.5	100.5	105.3	106.3
1990	94.6	93.3	101.1	106.9	108.4
1991	93.8	92.1	99.6	106.2	108.2
1992 <sup>2</sup>	94.5	93.4	99.9	105.7	107.0
Average annual percent change:					
1968-92	.6	-.2	1.6	1.0	1.8
1973-91	-.9	-1.8	.9	1.8	2.6

<sup>1</sup> All persons include paid employees, unpaid family workers, and the self-employed.

<sup>2</sup> Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of the Census and the Bureau of

Economic Analysis, U.S. Department of Commerce; the Bureau of Labor Statistics, and the Economics, Statistics, and Cooperatives Service, U.S. Department of Agriculture. Persons and hours based on data from the Bureau of Labor Statistics, the Bureau of the Census, and the Internal Revenue Service, U.S. Department of the Treasury.

**Table 156. Grocery stores (SIC 5411): Indexes of output per hour and related measures, 1972-92**  
(1987 = 100)

Year	Output per hour of all persons <sup>1</sup>	Output per person	Output	Hours of all persons	All persons
Index:					
1972	112.5	127.2	84.6	75.2	86.5
1973	108.4	122.4	82.5	76.1	87.4
1974	104.1	115.3	80.6	77.6	70.1
1975	106.0	115.5	82.5	77.8	71.4
1976	108.3	119.7	86.4	79.8	72.2
1977	107.5	117.6	86.4	80.4	73.5
1978	104.2	113.1	87.2	83.7	77.1
1979	106.3	113.1	89.5	84.2	79.1
1980	107.6	111.4	91.1	84.7	81.8
1981	105.2	108.2	90.7	86.2	83.8
1982	105.2	107.4	91.2	86.7	84.9
1983	105.9	107.5	93.1	87.9	86.6
1984	107.4	108.4	95.9	89.3	88.5
1985	105.3	105.5	98.6	93.6	93.5
1986	103.6	102.9	100.2	96.7	97.4
1987	100.0	100.0	100.0	100.0	100.0
1988	98.6	98.1	101.5	102.9	103.5
1989	95.9	94.8	102.0	106.4	107.6
1990	94.6	93.1	102.4	100.2	110.0
1991	93.9	91.9	100.7	107.2	109.6
1992 <sup>2</sup>	94.1	93.0	100.9	107.1	108.4
Average annual percent change:					
1972-82	-9	-1.6	.9	1.8	2.5
1973-91	-8	-1.6	1.1	1.9	2.7

<sup>1</sup> All persons include paid employees, unpaid family workers, and the self-employed.

<sup>2</sup> Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of Economic Analysis and the Bureau of the Census, U.S. Department of Commerce; and the Bureau of Labor Statistics. Persons and hours based on data from the Bureau of the Census; the Bureau of Labor Statistics; and the Internal Revenue Service, U.S. Department of the Treasury.

**Table 157. Retail bakeries (SIC 546): Indexes of output per hour and related measures, 1972-92**  
(1987 = 100)

Year	Output per hour of all persons <sup>1</sup>	Output per person	Output	Hours of all persons	All persons
Index:					
1972	125.5	135.2	87.8	69.8	64.8
1973	125.0	135.5	88.1	70.5	65.0
1974	116.3	132.0	85.4	73.4	64.7
1975	105.4	111.7	71.8	68.1	64.3
1976	114.3	117.5	77.7	68.0	66.1
1977	113.2	117.4	82.2	72.6	70.0
1978	112.1	115.2	84.2	75.1	73.1
1979	111.7	116.8	89.7	80.3	76.8
1980	116.1	120.8	91.8	79.1	76.0
1981	110.7	113.5	86.7	78.3	76.4
1982	102.5	104.6	84.6	82.5	80.9
1983	103.2	102.9	84.2	81.6	81.8
1984	94.8	87.0	84.0	88.5	86.6
1985	86.9	88.4	79.9	90.8	89.3
1986	93.2	93.7	86.7	93.0	92.5
1987	100.0	100.0	100.0	100.0	100.0
1988	94.2	94.1	91.2	96.8	96.9
1989	87.3	86.9	81.4	93.2	93.7
1990	84.9	86.2	84.1	99.1	95.4
1991	90.0	91.6	85.3	94.8	93.1
1992 <sup>2</sup>	82.5	83.5	79.1	95.9	94.7
Average annual percent change:					
1972-82	-2.1	-2.4	-.5	1.6	1.9
1973-91	-1.8	-2.2	-.2	1.7	2.0

<sup>1</sup> All persons include paid employees, unpaid family workers, and the self-employed.

<sup>2</sup> Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of Economic Analysis and the Bureau of the Census, U.S. Department of Commerce; and the Bureau of Labor Statistics. Persons and hours based on data from the Bureau of the Census; the Bureau of Labor Statistics; and the Internal Revenue Service, U.S. Department of the Treasury.

**Table 158. New and used car dealers (SIC 5511): Indexes of output per hour and related measures, 1967-92**  
(1967 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees
<b>Index:</b>					
1967	71.6	81.0	80.3	84.2	74.4
1968	75.6	84.3	84.9	85.9	77.0
1969	75.7	83.4	86.7	88.1	80.0
1970	78.1	83.2	85.3	85.8	78.5
1971	80.9	86.2	70.1	86.6	79.5
1972	83.9	90.8	78.2	90.8	83.9
1973	85.1	91.5	79.4	93.3	86.8
1974	82.4	87.9	71.8	86.9	81.5
1975	83.9	88.4	70.6	84.1	79.0
1976	87.1	92.4	77.0	88.4	83.3
1977	88.3	92.6	80.3	90.9	86.7
1978	88.5	91.6	83.2	94.0	90.8
1979	86.3	89.6	80.9	93.7	90.3
1980	87.9	90.3	72.8	82.8	80.6
1981	86.8	89.2	68.2	78.6	78.5
1982	88.8	90.4	67.9	76.5	75.1
1983	97.6	99.1	77.4	79.3	78.1
1984	99.5	101.2	86.9	87.3	85.9
1985	99.8	101.2	93.7	93.9	92.6
1986	101.6	102.1	98.8	97.2	96.8
1987	100.0	100.0	100.0	100.0	100.0
1988	102.6	102.7	106.4	103.7	103.6
1989	103.8	102.9	106.2	102.3	103.2
1990	107.1	106.9	106.8	99.7	99.9
1991	105.5	105.4	100.1	94.9	95.0
1992 <sup>1</sup>	106.2	106.5	100.9	95.0	94.7
<b>Average annual percent change:</b>					
1958-92	2.0	1.4	2.6	.6	1.1
1973-91	1.2	.8	1.3	.1	.5

<sup>1</sup> Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of the Census, the Bureau of

Labor Statistics, the National Automobile Dealers Association, and Ward's Communications, Inc. (Ward's Automotive Yearbooks). Employment and hours based on data from the Bureau of Labor Statistics.

**Table 159. Auto and home supply stores (SIC 5531): Indexes of output per hour and related measures, 1972-92**  
(1967 = 100)

Year	Output per hour of all persons <sup>1</sup>	Output per person	Output	Hours of all persons	All persons
<b>Index:</b>					
1972	67.9	74.4	48.2	68.0	62.1
1973	71.0	77.5	52.4	73.8	67.6
1974	66.8	72.3	51.5	77.1	71.2
1975	70.8	75.6	55.2	78.0	73.0
1976	71.2	76.0	58.2	81.7	76.6
1977	79.7	84.4	67.7	86.0	80.2
1978	81.9	84.0	70.5	86.1	83.9
1979	81.2	83.4	73.4	90.4	88.0
1980	84.0	86.5	72.8	86.7	84.2
1981	85.9	88.1	74.8	87.1	84.9
1982	84.4	86.0	74.4	88.1	85.6
1983	92.7	93.6	82.9	89.4	88.6
1984	91.2	93.5	89.6	98.2	95.8
1985	95.0	97.0	96.5	101.6	99.5
1986	94.6	95.8	95.7	101.2	99.9
1987	100.0	100.0	100.0	100.0	100.0
1988	106.5	106.2	111.4	104.6	104.9
1989	108.9	107.2	113.5	104.2	105.9
1990	114.2	113.0	121.4	106.3	107.4
1991	114.6	113.7	119.5	104.3	105.1
1992 <sup>2</sup>	114.0	112.0	118.2	103.7	105.5
<b>Average annual percent change:</b>					
1972-92	2.6	2.1	4.8	2.1	2.7
1973-91	2.7	2.2	4.7	1.9	2.5

<sup>1</sup> All persons include paid employees, unpaid family workers, and the self-employed.

<sup>2</sup> Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of Economic Analysis and the Bureau of the Census, U.S. Department of Commerce, and the Bureau of Labor Statistics. Persons and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

**Table 160. Gasoline service stations (SIC 5541): Indexes of output per hour and related measures, 1967-92**  
(1967=100)

Year	Output per hour of all persons <sup>1</sup>	Output per person	Output	Hours of all persons	All persons
Index:					
1967	43.5	55.0	66.6	153.0	121.0
1968	46.6	57.9	72.2	155.0	124.8
1969	46.9	57.5	73.9	157.5	126.6
1970	51.5	62.3	79.8	155.1	128.1
1971	53.2	64.5	83.1	156.3	128.8
1972	55.4	66.8	86.2	159.2	132.0
1973	56.4	69.0	89.8	151.1	130.2
1974	60.0	68.5	90.2	133.7	117.0
1975	58.8	67.6	92.4	140.1	121.9
1976	64.9	71.8	96.2	132.8	120.0
1977	69.0	75.1	98.5	128.3	117.9
1978	71.0	76.8	99.4	125.9	116.4
1979	74.0	78.1	93.6	113.0	107.1
1980	72.3	76.3	78.9	109.1	103.4
1981	73.5	77.4	79.9	106.0	100.7
1982	77.1	80.0	76.9	99.7	96.1
1983	84.3	86.8	83.2	98.7	95.8
1984	87.1	89.8	87.9	100.9	97.9
1985	93.8	94.5	91.7	97.8	97.0
1986	102.0	103.1	101.3	99.3	98.3
1987	100.0	100.0	100.0	100.0	100.0
1988	102.4	101.8	103.0	100.6	101.2
1989	104.0	102.0	104.8	100.8	102.7
1990	101.1	99.7	104.2	103.1	104.5
1991	102.1	100.7	103.1	101.0	102.4
1992 <sup>2</sup>	106.6	103.5	101.9	97.6	98.5
Average annual percent change:					
1967-92	3.4	2.5	2.3	-1.1	-2
1973-91	3.1	2.1	.8	-2.2	-1.3

<sup>1</sup> All persons include paid employees, unpaid family workers, and the self-employed.

<sup>2</sup> Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of Labor Statistics and the Bureau of the Census. Persons and hours based on data from the Bureau of Labor Statistics, the Bureau of the Census, and the Internal Revenue Service, U.S. Department of the Treasury.

**Table 161. Apparel and accessory stores (SIC 56): Indexes of output per hour and related measures, 1967-92**  
(1967=100)

Year	Output per hour of all persons <sup>1</sup>	Output per person	Output	Hours of all persons	All persons
Index:					
1967	56.2	65.8	41.0	73.0	62.5
1968	57.6	65.6	42.6	74.0	64.9
1969	57.0	64.8	43.3	76.0	66.8
1970	56.3	64.2	43.2	76.8	67.3
1971	57.8	65.6	45.6	76.9	69.5
1972	62.7	69.4	48.5	77.4	69.9
1973	66.8	76.1	54.0	79.5	71.0
1974	68.2	75.1	53.0	77.7	70.6
1975	72.6	79.3	55.4	76.3	69.0
1976	71.3	77.5	57.9	81.2	74.7
1977	69.2	74.6	58.3	84.3	78.2
1978	75.6	81.9	66.5	86.8	81.3
1979	78.0	82.3	69.4	89.0	84.3
1980	81.4	84.8	71.7	88.1	84.6
1981	85.7	88.9	76.3	89.0	85.8
1982	87.4	90.4	76.6	87.6	84.7
1983	92.0	94.6	81.8	86.9	86.5
1984	96.1	100.5	86.0	83.7	87.8
1985	102.0	103.2	93.5	91.7	90.6
1986	107.6	107.3	101.1	94.0	94.2
1987	100.0	100.0	100.0	100.0	100.0
1988	100.6	100.9	103.5	102.9	102.6
1989	102.3	103.0	109.5	107.0	106.3
1990	101.6	102.7	106.7	107.0	106.8
1991	102.3	103.3	106.4	104.0	110.0
1992 <sup>2</sup>	109.4	110.5	111.8	102.2	101.2
Average annual percent change:					
1967-92	2.7	2.1	4.1	1.4	1.9
1973-91	2.2	1.7	3.8	1.6	2.1

<sup>1</sup> All persons include paid employees, unpaid family workers, and the self-employed.

<sup>2</sup> Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

may differ from those previously published.

SOURCE: Output, persons, and hours based on data from the Bureau of Labor Statistics, the Bureau of the Census, and the Internal Revenue Service, U.S. Department of the Treasury.



**Table 162. Men's and boys' clothing stores (SIC 5611): indexes of output per hour and related measures, 1967-92**  
(1967=100)

Year	Output per hour of all persons <sup>1</sup>	Output per person	Output	Hours of all persons	All persons
<b>Index:</b>					
1967	62.5	70.6	76.7	122.8	106.7
1968	63.2	70.7	80.7	127.6	114.1
1969	64.1	71.3	84.9	132.4	119.0
1970	61.9	68.6	84.4	136.3	123.1
1971	64.7	70.8	86.4	136.7	124.9
1972	72.6	79.5	100.8	136.8	126.8
1973	77.5	84.4	105.5	136.2	125.0
1974	73.1	78.7	97.8	133.7	124.2
1975	76.6	82.9	100.3	130.9	121.0
1976	72.9	78.3	96.6	136.6	127.2
1977	74.9	79.9	101.1	134.9	125.6
1978	79.1	83.7	106.6	134.7	127.4
1979	81.3	85.6	108.5	133.4	126.8
1980	80.2	84.3	103.0	128.5	122.2
1981	87.3	90.3	101.9	116.7	112.9
1982	87.4	89.6	97.5	111.6	108.8
1983	89.4	91.2	97.2	108.7	106.6
1984	93.7	95.0	96.5	105.1	103.7
1985	96.2	96.1	96.6	100.4	100.5
1986	100.9	100.7	98.4	98.9	98.7
1987	100.0	100.0	100.0	100.0	100.0
1988	102.4	101.2	101.2	98.8	100.0
1989	102.3	100.8	101.5	96.7	100.2
1990	101.5	99.4	93.3	91.9	93.9
1991	102.0	99.7	95.6	84.9	96.9
1992 <sup>2</sup>	104.0	102.4	95.2	82.9	94.2
<b>Average annual percent change:</b>					
1967-82	2.1	1.5	.5	-1.6	-1.0
1973-91	1.5	.9	-1.1	-2.6	-2.0

<sup>1</sup> All persons include paid employees, unpaid family workers, and the self-employed.

<sup>2</sup> Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of Labor Statistics and the Bureau of the Census. Persons and hours based on data from the Bureau of Labor Statistics, the Bureau of the Census, and the Internal Revenue Service, U.S. Department of the Treasury.

**Table 163. Women's clothing stores (SIC 5621): indexes of output per hour and related measures, 1967-92**  
(1967=100)

Year	Output per hour of all persons <sup>1</sup>	Output per person	Output	Hours of all persons	All persons
<b>Index:</b>					
1967	45.1	54.5	35.9	79.6	65.9
1968	46.4	54.3	36.9	79.5	66.0
1969	45.5	54.3	38.1	81.9	70.2
1970	48.3	56.0	39.5	81.7	70.5
1971	52.3	60.2	44.0	84.1	73.1
1972	54.8	61.7	45.8	83.9	74.2
1973	59.5	66.7	50.6	85.1	75.9
1974	60.8	67.4	50.7	83.4	75.2
1975	67.2	74.3	55.7	82.9	75.0
1976	66.1	73.4	59.0	89.2	80.4
1977	63.2	69.0	57.7	91.3	83.6
1978	70.6	75.7	65.9	93.3	87.1
1979	73.3	77.2	68.9	94.0	89.2
1980	74.4	77.4	69.0	92.7	89.2
1981	80.5	83.6	73.9	91.6	88.4
1982	89.6	92.3	77.8	86.8	84.3
1983	94.7	96.1	84.4	89.1	86.0
1984	96.1	101.6	90.0	91.7	88.6
1985	99.9	102.0	95.4	95.5	93.5
1986	107.3	107.2	104.3	97.2	97.1
1987	100.0	100.0	100.0	100.0	100.0
1988	96.4	96.6	101.6	102.2	103.0
1989	102.9	101.5	108.5	105.4	106.9
1990	106.5	103.7	107.6	101.0	103.8
1991	110.3	107.8	106.4	96.5	98.7
1992 <sup>2</sup>	119.9	117.9	112.5	93.8	95.4
<b>Average annual percent change:</b>					
1967-82	4.0	3.1	4.7	?	1.5
1973-91	3.5	2.7	4.2	?	1.5

<sup>1</sup> All persons include paid employees, unpaid family workers, and the self-employed.

<sup>2</sup> Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of Labor Statistics and the Bureau of the Census. Persons and hours based on data from the Bureau of Labor Statistics, the Bureau of the Census, and the Internal Revenue Service, U.S. Department of the Treasury.

**Table 164. Family clothing stores (SIC 5651): Indexes of output per hour and related measures, 1967-92**  
(1967 = 100)

Year	Output per hour of all persons <sup>1</sup>	Output per person	Output	Hours of all persons	All persons
Index:					
1967	52.6	62.4	28.6	54.4	45.6
1968	54.4	64.0	29.5	54.2	46.1
1969	52.5	62.6	30.0	57.1	47.9
1970	52.6	63.2	30.0	57.0	47.5
1971	59.7	69.3	33.6	56.3	48.5
1972	66.1	74.1	36.0	54.5	48.6
1973	76.3	84.0	41.6	54.5	48.5
1974	75.3	82.5	42.0	55.8	50.9
1975	76.7	83.8	43.4	56.6	51.6
1976	75.1	81.7	45.5	60.6	55.7
1977	70.0	76.5	46.7	69.6	63.7
1978	70.4	76.6	51.1	72.6	66.7
1979	75.7	79.8	54.6	72.1	68.4
1980	86.7	88.6	60.5	69.8	68.3
1981	82.7	85.6	65.8	71.0	68.8
1982	88.5	102.7	71.4	72.5	69.5
1983	106.5	109.3	78.9	74.1	72.2
1984	106.4	109.1	83.7	78.7	76.7
1985	103.2	104.4	87.2	84.5	83.5
1986	103.4	103.8	83.9	90.8	90.5
1987	100.0	100.0	100.0	100.0	100.0
1988	101.1	100.7	105.8	104.6	105.1
1989	103.1	103.0	112.8	108.4	109.5
1990	101.4	102.7	115.1	113.5	112.1
1991	102.3	103.9	116.1	115.5	113.7
1992 <sup>2</sup>	112.5	115.1	131.3	116.7	114.1
Average annual percent change:					
1967-92	3.1	2.5	6.3	3.1	3.7
1973-91	1.6	1.2	6.0	4.3	4.7

<sup>1</sup> All persons include paid employees, unpaid family workers, and the self-employed.

<sup>2</sup> Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of Labor Statistics and the Bureau of the Census. Persons and hours based on data from the Bureau of Labor Statistics, the Bureau of the Census, and the Internal Revenue Service, U.S. Department of the Treasury.

**Table 165. Shoe stores (SIC 5661): Indexes of output per hour and related measures, 1967-92**  
(1967 = 100)

Year	Output per hour of all persons <sup>1</sup>	Output per person	Output	Hours of all persons	All persons
Index:					
1967	76.6	86.1	63.7	69.9	62.4
1968	79.1	86.3	67.4	72.6	66.5
1969	84.3	89.7	61.0	72.4	68.0
1970	76.6	83.7	66.4	73.4	67.4
1971	73.0	76.9	55.5	79.3	72.2
1972	71.3	81.1	58.3	76.4	71.9
1973	81.1	87.1	63.6	78.4	73.0
1974	71.0	77.1	67.9	81.2	75.1
1975	76.8	81.0	58.9	76.7	72.7
1976	78.6	83.0	61.7	78.5	74.3
1977	80.6	85.1	66.2	82.1	77.8
1978	86.5	92.5	74.7	84.4	80.8
1979	91.1	94.3	81.2	82.1	86.1
1980	89.2	91.8	82.6	82.6	90.0
1981	92.4	94.6	86.2	85.5	93.2
1982	88.9	89.9	82.6	84.9	91.9
1983	87.8	89.1	86.0	89.0	96.5
1984	90.8	91.1	87.5	84.4	96.0
1985	97.8	97.2	91.7	91.1	94.3
1986	105.0	105.0	98.5	91.1	93.8
1987	100.0	100.0	100.0	100.0	100.0
1988	102.6	103.3	101.4	93.8	98.2
1989	107.3	109.5	108.3	101.9	99.8
1990	106.3	112.9	111.4	104.8	98.7
1991	106.5	111.7	105.0	104.5	94.0
1992 <sup>2</sup>	109.2	111.4	101.8	93.1	91.4
Average annual percent change:					
1967-92	1.4	1.0	2.6	1.2	1.5
1973-91	1.5	1.4	2.8	1.3	1.4

<sup>1</sup> All persons include paid employees, unpaid family workers, and the self-employed.

<sup>2</sup> Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of Labor Statistics and the Bureau of the Census. Persons and hours based on data from the Bureau of Labor Statistics, the Bureau of the Census, and the Internal Revenue Service, U.S. Department of the Treasury.

**Table 165. Home furniture, furnishings, and equipment stores (SIC 57): Indexes of output per hour and related measures, 1967-92**  
(1967 = 100)

Year	Output per hour of all persons <sup>1</sup>	Output per person	Output	Hours of all persons	All persons
<b>Index:</b>					
1967	49.3	56.2	33.4	67.7	59.4
1968	55.6	61.3	36.7	65.6	59.9
1969	53.7	59.2	37.7	70.2	63.7
1970	56.3	61.4	38.9	69.1	63.4
1971	58.2	61.7	40.5	72.1	65.6
1972	62.5	66.1	46.9	75.9	68.9
1973	66.9	71.4	50.8	75.9	71.1
1974	64.9	69.5	50.7	76.2	72.9
1975	64.6	69.6	49.2	76.2	70.7
1976	66.8	71.6	52.9	79.2	73.9
1977	70.0	74.0	56.6	80.8	76.5
1978	70.4	74.9	60.3	85.6	80.5
1979	75.6	79.6	65.6	86.9	82.4
1980	75.3	79.5	64.1	85.1	81.7
1981	79.0	81.5	64.0	81.0	78.5
1982	78.7	79.1	61.4	80.1	78.6
1983	83.3	86.3	70.7	84.9	81.9
1984	90.3	92.2	79.2	87.7	85.9
1985	92.4	94.2	88.0	95.2	93.4
1986	99.3	99.6	97.9	98.6	96.3
1987	100.0	100.0	100.0	100.0	100.0
1988	105.9	106.0	109.2	103.1	101.1
1989	108.7	110.6	117.2	107.8	106.0
1990	113.5	113.9	118.8	104.7	104.3
1991	118.1	119.3	121.3	102.7	101.7
1992 <sup>2</sup>	129.7	129.1	129.0	100.2	99.9
<b>Average annual percent change:</b>					
1967-92	3.9	3.4	5.6	1.6	2.1
1973-91	3.2	2.9	5.0	1.7	2.0

<sup>1</sup> All persons include paid employees, unpaid family workers, and the self-employed.

<sup>2</sup> Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of Economic Analysis and the Bureau of the Census, U.S. Department of Commerce, and the Bureau of Labor Statistics. Persons and hours based on data from the Bureau of Labor Statistics, the Bureau of the Census, and the Internal Revenue Service, U.S. Department of the Treasury.

**Table 167. Furniture and home furnishings stores (SIC 571): Indexes of output per hour and related measures, 1967-92**  
(1967 = 100)

Year	Output per hour of all persons <sup>1</sup>	Output per person	Output	Hours of all persons	All persons
<b>Index:</b>					
1967	60.8	66.1	41.5	66.3	60.9
1968	69.4	73.2	46.3	66.7	61.6
1969	67.4	72.6	47.8	70.6	65.6
1970	67.4	72.0	46.2	71.5	66.5
1971	70.3	75.7	51.3	73.0	67.9
1972	76.9	84.4	60.1	76.2	71.2
1973	81.6	86.8	64.9	79.5	74.8
1974	76.9	84.2	64.1	81.2	76.1
1975	76.5	81.7	59.9	77.0	72.1
1976	80.1	84.6	63.1	78.6	74.6
1977	84.9	89.3	68.6	80.8	77.7
1978	83.1	87.1	72.3	77.0	83.0
1979	89.0	91.6	77.4	87.0	84.5
1980	83.2	86.1	73.6	86.5	85.5
1981	85.8	89.2	71.5	83.3	81.1
1982	82.8	87.1	67.3	81.3	81.0
1983	88.6	90.6	76.1	85.7	84.0
1984	97.3	98.2	85.1	87.5	86.7
1985	94.3	96.1	89.7	92.1	93.3
1986	101.1	101.5	99.1	96.0	97.6
1987	100.0	100.0	100.0	100.0	100.0
1988	98.5	102.0	104.8	105.3	102.7
1989	101.7	104.0	110.9	109.0	106.6
1990	103.9	105.1	107.9	103.8	102.7
1991	107.6	105.1	104.9	101.3	99.8
1992 <sup>2</sup>	117.3	112.5	110.1	98.0	97.9
<b>Average annual percent change:</b>					
1967-92	2.5	2.0	4.0	1.5	1.9
1973-91	1.3	1.1	2.7	1.4	1.6

<sup>1</sup> All persons include paid employees, unpaid family workers, and the self-employed.

<sup>2</sup> Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of Economic Analysis and the Bureau of the Census, U.S. Department of Commerce, and the Bureau of Labor Statistics. Persons and hours based on data from the Bureau of Labor Statistics, the Bureau of the Census, and the Internal Revenue Service, U.S. Department of the Treasury.

**Table 168. Appliance, radio, television, and computer stores (SIC 572, 573): Indexes of output per hour and related measures, 1967-92**  
(1987 = 100)

Year	Output per hour of all persons <sup>1</sup>	Output per person	Output	Hours of all persons	All persons
Index:					
1967	36.3	42.6	24.3	66.9	57.1
1968	40.6	45.8	26.2	64.5	57.2
1969	38.4	43.9	26.7	69.6	60.8
1970	43.1	48.0	28.3	65.6	58.9
1971	40.3	45.7	28.5	70.7	62.3
1972	44.4	49.6	32.5	73.2	65.5
1973	50.1	54.0	35.4	70.7	65.6
1974	48.8	52.9	36.0	73.8	68.1
1975	50.5	55.1	37.8	74.9	68.6
1976	51.3	56.2	40.9	79.8	72.8
1977	53.2	57.6	43.0	80.8	74.7
1978	55.3	60.2	46.2	83.5	76.7
1979	59.8	65.3	51.8	86.6	79.3
1980	65.9	69.4	52.8	80.1	76.1
1981	70.5	73.1	54.7	77.6	74.8
1982	68.4	71.6	53.7	78.5	75.0
1983	76.0	80.6	63.6	83.7	78.9
1984	81.3	84.4	71.6	88.1	84.8
1985	90.1	91.6	85.8	95.2	93.7
1986	96.8	96.9	96.2	99.4	99.3
1987	100.0	100.0	100.0	100.0	100.0
1988	116.1	117.5	115.9	99.8	98.6
1989	119.6	120.5	126.8	106.0	105.2
1990	127.3	126.7	135.2	106.2	106.7
1991	139.5	140.0	146.2	104.8	104.4
1992 <sup>2</sup>	152.4	153.3	157.9	103.6	103.0
Average annual percent change:					
1967-92	5.9	5.3	7.8	1.8	2.4
1973-91	5.9	5.4	8.2	2.2	2.6

<sup>1</sup> All persons include paid employees, unpaid family workers, and the self-employed.

<sup>2</sup> Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of Economic Analysis and the Bureau of the Census, U.S. Department of Commerce; and the Bureau of Labor Statistics. Persons and hours based on data from the Bureau of Labor Statistics; the Bureau of the Census; and the Internal Revenue Service, U.S. Department of the Treasury.

**Table 169. Household appliance stores (SIC 5722): Indexes of output per hour and related measures, 1972-92**  
(1987 = 100)

Year	Output per hour of all persons <sup>1</sup>	Output per person	Output	Hours of all persons	All persons
Index:					
1972	54.9	61.2	65.1	118.5	106.3
1973	59.1	63.7	66.8	113.0	104.8
1974	59.3	63.9	64.9	109.5	101.6
1975	58.1	62.7	57.9	99.7	92.4
1976	56.0	60.9	61.5	109.8	101.0
1977	64.8	69.0	66.9	103.2	96.9
1978	64.8	69.2	68.6	105.6	99.1
1979	72.2	76.8	75.8	105.0	98.7
1980	71.3	73.7	72.9	102.3	98.9
1981	74.5	76.2	69.7	93.5	91.5
1982	66.2	67.8	65.5	99.0	96.6
1983	71.2	73.8	74.3	104.4	100.7
1984	86.9	89.0	82.1	94.5	92.2
1985	94.6	96.8	96.5	102.0	99.7
1986	106.3	106.6	107.5	101.1	100.8
1987	100.0	100.0	100.0	100.0	100.0
1988	102.0	102.5	103.4	101.4	100.9
1989	108.2	110.4	112.5	104.0	101.9
1990	111.2	112.7	110.4	99.3	98.0
1991	118.0	121.9	108.7	92.1	89.2
1992 <sup>2</sup>	139.9	143.3	118.1	84.4	82.4
Average annual percent change:					
1972-92	4.8	4.3	3.0	-1.7	-1.3
1973-91	3.9	3.7	2.7	-1.1	-0.9

<sup>1</sup> All persons include paid employees, unpaid family workers, and the self-employed.

<sup>2</sup> Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of Economic Analysis and the Bureau of the Census, U.S. Department of Commerce; and the Bureau of Labor Statistics. Persons and hours based on data from the Bureau of Labor Statistics; the Bureau of the Census; and the Internal Revenue Service, U.S. Department of the Treasury.

**Table 170. Radio, television, and computer stores (SIC 573): Indexes of output per hour and related measures, 1972-92**  
(1987 = 100)

Year	Output per hour of all persons <sup>1</sup>	Output per person	Output	Hours of all persons	All persons
Index:					
1972	42.0	46.5	23.2	55.2	49.9
1973	48.6	51.9	26.2	53.9	50.5
1974	46.3	50.1	27.6	59.6	55.1
1975	48.8	53.4	31.8	65.1	59.5
1976	51.3	56.3	34.9	68.0	62.0
1977	49.9	54.2	35.9	71.9	66.2
1978	52.8	57.9	39.4	74.6	68.1
1979	56.0	61.9	44.5	79.4	71.9
1980	65.5	69.3	46.7	71.3	67.4
1981	70.1	73.2	50.0	71.3	68.3
1982	71.0	74.8	49.9	70.3	66.7
1983	79.7	85.4	60.2	75.5	70.5
1984	79.7	83.2	68.2	85.6	82.0
1985	89.1	90.3	82.4	92.5	91.3
1986	93.9	93.7	92.6	98.6	98.8
1987	100.0	100.0	100.0	100.0	100.0
1988	120.9	122.6	119.9	99.2	97.8
1989	123.1	123.4	131.3	106.7	106.4
1990	131.4	130.1	143.1	108.9	110.0
1991	144.0	143.3	158.1	109.8	110.3
1992 <sup>2</sup>	153.2	153.7	170.4	111.2	110.9
Average annual percent change:					
1972-92	6.7	6.2	10.5	3.6	4.1
1973-91	6.2	5.8	10.5	4.0	4.4

<sup>1</sup> All persons include paid employees, unpaid family workers, and the self-employed.

<sup>2</sup> Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of Economic Analysis and the Bureau of the Census, U.S. Department of Commerce; and the Bureau of Labor Statistics. Persons and hours based on data from the Bureau of Labor Statistics; the Bureau of the Census; and the Internal Revenue Service, U.S. Department of the Treasury.

**Table 171. Eating and drinking places (SIC 581): Indexes of output per hour and related measures, 1967-92**  
(1987 = 100)

Year	Output per hour of all persons <sup>1</sup>	Output per person	Output	Hours of all persons	All persons
Index:					
1967	103.6	135.1	54.6	52.7	40.4
1968	106.1	136.0	57.8	54.5	42.5
1969	103.9	129.8	58.3	56.1	44.9
1970	107.4	130.5	60.7	56.5	46.5
1971	104.6	126.2	61.2	58.5	48.5
1972	106.7	127.9	64.7	59.5	50.6
1973	110.4	127.2	68.2	61.8	53.6
1974	105.5	119.3	67.3	63.8	56.4
1975	107.5	120.2	70.3	65.4	58.5
1976	108.0	118.5	74.3	68.8	62.7
1977	106.7	114.0	76.5	71.7	67.1
1978	106.1	111.1	79.9	75.3	71.9
1979	106.3	108.7	82.5	77.6	75.9
1980	106.5	106.7	82.5	77.5	77.3
1981	103.9	104.4	82.7	79.6	79.2
1982	103.5	104.4	83.9	81.1	80.4
1983	102.5	103.8	87.0	84.9	83.8
1984	98.9	100.2	89.3	90.3	89.1
1985	96.2	96.0	90.4	94.0	94.2
1986	99.2	97.8	94.4	95.2	96.5
1987	100.0	100.0	100.0	100.0	100.0
1988	103.0	102.0	105.1	102.0	103.0
1989	102.9	101.3	106.5	103.5	105.1
1990	104.6	102.2	108.0	104.1	106.6
1991	106.1	102.4	107.8	101.6	105.3
1992 <sup>2</sup>	104.6	100.9	106.2	103.4	107.2
Average annual percent change:					
1968-92	.3	-.9	2.7	2.5	3.7
1973-91	-.2	-1.2	2.6	2.8	3.8

<sup>1</sup> All persons include paid employees, unpaid family workers, and the self-employed.

<sup>2</sup> Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of the Census and the Bureau of Economic Analysis, U.S. Department of Commerce; and the Bureau of Labor Statistics. Persons and hours based on data from the Bureau of Labor Statistics, Bureau of the Census, and the Internal Revenue Service, U.S. Department of the Treasury.

**Table 172. Drug and proprietary stores (SIC 5912): Indexes of output per hour and related measures, 1967-92**  
(1967=100)

Year	Output per hour of all persons <sup>1</sup>	Output per person	Output	Hours of all persons	All persons
Index:					
1967	63.7	75.1	59.6	93.6	79.4
1968	69.3	79.8	64.2	92.7	80.5
1969	72.8	81.7	66.8	91.7	81.8
1970	79.1	87.4	71.7	90.6	82.0
1971	80.8	89.4	72.6	89.8	81.2
1972	83.7	91.9	76.0	90.8	82.7
1973	92.2	99.2	82.4	89.4	83.1
1974	93.2	100.6	84.1	90.2	83.6
1975	89.5	99.3	83.2	93.0	83.8
1976	92.2	100.0	84.7	91.9	84.7
1977	94.9	99.2	85.1	89.7	85.8
1978	97.5	102.2	87.3	89.5	85.4
1979	98.6	104.0	90.2	91.5	86.7
1980	101.5	103.1	90.1	88.8	87.4
1981	102.2	102.7	90.1	88.2	87.7
1982	102.4	101.8	88.5	86.4	86.9
1983	106.6	105.4	91.9	86.2	87.2
1984	104.8	105.2	94.4	90.1	89.7
1985	101.4	102.5	95.6	94.3	93.3
1986	101.0	101.7	97.9	96.9	96.3
1987	100.0	100.0	100.0	100.0	100.0
1988	102.8	100.5	101.8	99.0	101.3
1989	104.2	101.5	105.2	101.0	103.6
1990	106.6	104.8	110.8	103.9	105.7
1991	109.6	107.4	112.8	102.9	105.0
1992 <sup>2</sup>	108.0	107.4	111.0	102.8	103.4
Average annual percent change:					
1968-92	2.7	2.0	3.2	.5	1.2
1973-91	1.0	.4	1.8	.8	1.3

<sup>1</sup> All persons include paid employees, unpaid family workers, and the self-employed.

<sup>2</sup> Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of the Census and the Bureau of Labor Statistics. All persons and hours based on data from the Bureau of the Census; the Bureau of Labor Statistics; and the Internal Revenue Service, U.S. Department of the Treasury.

**Table 173. Liquor stores (SIC 5921): Indexes of output per hour and related measures, 1972-92**  
(1967=100)

Year	Output per hour of all persons <sup>1</sup>	Output per person	Output	Hours of all persons	All persons
Index:					
1972	94.1	106.6	99.6	105.8	93.4
1973	94.1	108.5	102.2	106.6	94.2
1974	92.8	107.5	102.2	110.1	95.1
1975	89.9	103.1	100.0	113.5	96.9
1976	94.1	105.0	103.6	110.1	96.7
1977	93.4	103.6	105.7	113.2	102.0
1978	88.6	95.4	104.0	117.4	109.0
1979	90.0	95.5	107.4	119.3	112.5
1980	95.2	96.5	109.9	115.4	113.9
1981	96.9	97.1	107.9	111.3	111.1
1982	100.9	99.6	105.6	104.7	106.0
1983	95.3	97.5	107.0	112.3	109.7
1984	93.2	93.6	100.3	107.6	107.2
1985	101.6	98.6	104.4	102.8	105.9
1986	93.7	93.9	102.7	109.6	109.4
1987	100.0	100.0	100.0	100.0	100.0
1988	100.1	100.2	98.3	98.2	98.1
1989	104.7	102.6	98.6	94.2	96.1
1990	110.6	107.3	103.4	93.5	96.4
1991	112.3	107.8	97.1	86.5	90.1
1992 <sup>2</sup>	126.6	117.5	100.8	79.6	85.8
Average annual percent change:					
1972-92	1.5	.5	.1	-1.4	-.4
1973-91	1.0	.0	-.3	-1.3	-.2

<sup>1</sup> All persons include paid employees, unpaid family workers, and the self-employed.

<sup>2</sup> Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of Labor Statistics and the Bureau of the Census. Persons and hours based on data from the Bureau of Labor Statistics; the Bureau of the Census; and the Internal Revenue Service, U.S. Department of the Treasury.



**Table 174. Commercial banks (SIC 602): Indexes of output per hour and related measures, 1967-92**  
(1967 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees
<b>Index:</b>					
1967	70.9	71.2	36.1	50.9	50.7
1968	72.2	72.4	38.9	53.9	53.7
1969	71.2	71.6	41.5	58.3	58.0
1970	72.5	72.3	44.6	61.5	61.7
1971	75.2	75.2	47.8	63.6	63.6
1972	76.6	76.9	51.4	67.1	66.8
1973	81.2	81.7	57.5	70.8	70.4
1974	78.1	78.9	57.3	75.3	74.5
1975	76.3	77.2	58.5	76.7	75.8
1976	80.5	81.4	63.4	78.8	77.9
1977	84.7	85.8	69.1	81.6	80.5
1978	85.9	87.0	73.4	85.4	84.4
1979	84.1	84.6	75.3	89.5	89.0
1980	78.6	78.8	73.4	93.4	93.1
1981	77.9	78.8	74.8	96.0	94.9
1982	80.0	80.9	78.1	97.6	96.5
1983	87.1	87.7	84.5	97.0	96.4
1984	89.6	90.6	88.1	98.3	97.2
1985	94.3	94.5	93.5	99.2	98.9
1986	96.1	96.9	97.1	101.0	100.2
1987	100.0	100.0	100.0	100.0	100.0
1988	103.5	102.0	101.7	98.3	99.7
1989	102.1	100.5	101.5	99.4	101.0
1990	106.5	106.4	106.1	99.6	101.6
1991	112.3	109.2	106.5	96.6	99.4
1992 <sup>1</sup>	117.3	114.1	110.3	94.0	96.7
<b>Average annual percent change:</b>					
1967-92	2.0	1.9	4.6	2.5	2.6
1973-91	1.8	1.6	3.6	1.7	1.9

<sup>1</sup> Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Federal Reserve Bank of Atlanta; the Board of Governors, Federal Reserve System; the Federal Deposit Insurance

Corporation; the U.S. Department of Housing and Urban Development; the VISACARD Network and Interbank Card Network Associations; the American Council of Life Insurance; and the National Automatic Clearing House Association. Employment and hours based on data from the Bureau of Labor Statistics.

**Table 175. Hotels and motels (SIC 7011): Indexes of output per hour and related measures, 1967-92**  
(1967 = 100)

Year	Output per hour of all persons <sup>1</sup>	Output per person	Output	Hours of all persons	All persons
<b>Index:</b>					
1967	92.6	107.3	51.2	55.3	47.7
1968	89.7	102.4	50.6	56.4	49.4
1969	90.6	102.2	52.0	57.4	50.9
1970	95.3	105.2	54.3	57.0	51.6
1971	85.2	91.9	48.9	57.4	53.2
1972	100.7	107.4	59.8	59.4	55.7
1973	102.9	110.3	64.1	62.3	58.1
1974	99.7	105.1	63.3	63.5	60.2
1975	100.2	103.3	63.5	63.4	61.5
1976	106.9	109.8	69.7	65.2	63.5
1977	111.7	112.7	73.7	66.0	65.4
1978	116.4	117.5	79.4	68.2	67.6
1979	109.8	110.8	80.9	73.7	73.0
1980	103.8	104.0	77.1	74.3	74.1
1981	103.6	104.0	80.5	77.7	77.4
1982	101.9	101.9	80.2	78.7	78.7
1983	105.7	105.0	84.8	80.2	80.8
1984	101.6	101.0	87.2	85.6	86.3
1985	101.1	99.9	90.9	89.9	91.0
1986	98.9	98.3	92.1	93.1	93.7
1987	100.0	100.0	100.0	100.0	100.0
1988	95.8	97.7	103.2	107.7	105.6
1989	91.4	92.9	101.6	111.1	109.4
1990	90.6	90.5	100.7	111.2	111.3
1991	91.3	90.8	98.6	108.0	108.6
1992 <sup>2</sup>	97.8	96.8	103.4	105.7	106.8
<b>Average annual percent change:</b>					
1968-92	.9	.2	3.2	2.3	3.0
1973-91	-.7	-1.1	2.4	3.1	3.5

<sup>1</sup> All persons include paid employees and the self-employed.

<sup>2</sup> Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, persons, and hours based on data from the Bureau of Labor Statistics; Bureau of the Census; and the Internal Revenue Service, U.S. Department of the Treasury.

**Table 176. Laundry, cleaning, and garment services (SIC 721): Indexes of output per hour and related measures, 1967-92**  
(1967 = 100)

Year	Output per hour of all persons <sup>1</sup>	Output per person	Output	Hours of all persons	All persons
Index:					
1967	111.6	122.4	169.7	152.0	138.7
1968	115.1	122.4	166.7	144.8	136.2
1969	113.2	120.5	160.3	141.6	133.0
1970	110.3	116.7	148.8	134.9	127.5
1971	112.7	116.3	136.4	121.0	117.3
1972	115.7	121.1	135.4	117.0	111.8
1973	114.9	122.2	127.7	111.1	104.5
1974	114.3	119.0	116.1	101.6	97.6
1975	112.5	116.1	108.8	96.7	93.7
1976	113.3	116.0	104.2	92.0	89.8
1977	116.4	118.5	104.6	89.9	88.3
1978	121.6	123.7	103.7	89.4	87.9
1979	113.8	115.4	104.1	91.5	90.2
1980	105.9	107.5	99.0	93.5	92.1
1981	102.8	102.9	92.1	89.6	89.5
1982	105.5	103.4	86.5	83.9	85.6
1983	105.1	103.6	91.0	86.6	87.8
1984	107.4	106.5	97.1	90.4	91.2
1985	103.2	103.9	98.7	95.6	94.0
1986	100.7	101.8	98.0	97.3	96.3
1987	100.0	100.0	100.0	100.0	100.0
1988	97.1	99.2	104.9	108.0	105.7
1989	98.6	100.3	104.5	106.0	104.2
1990	99.0	99.0	104.0	105.1	105.1
1991	96.6	96.8	101.0	104.6	104.3
1992 <sup>2</sup>	97.1	98.2	104.5	107.6	106.4
Average annual percent change:					
1968-92	.1	-.3	-1.0	-1.1	-.7
1973-91	-1.0	-1.3	-1.3	-.3	.0

<sup>1</sup> All persons include paid employees, unpaid family workers, and the self-employed.

<sup>2</sup> Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, persons, and hours based on data from the Bureau of Labor Statistics; Bureau of the Census and the Bureau of Economic Analysis, U.S. Department of Commerce; and the Internal Revenue Service, U.S. Department of the Treasury.

**Table 177. Beauty and barber shops (SIC 7231, 7241): Indexes of output per hour and related measures, 1972-92**  
(1987 = 100)

Year	Output per hour of all persons <sup>1</sup>	Output per person	Output	Hours of all persons	All persons
Index:					
1972	88.5	93.3	84.7	95.7	90.8
1973	84.9	90.1	83.3	98.1	92.5
1974	85.4	87.9	79.2	92.7	90.1
1975	83.2	85.0	76.2	91.6	89.6
1976	80.1	82.1	73.7	92.0	89.8
1977	84.2	85.5	78.0	92.6	91.2
1978	87.4	88.1	82.2	94.1	93.3
1979	90.5	89.2	82.4	91.0	92.4
1980	86.8	85.3	80.8	93.1	94.7
1981	92.0	89.5	77.9	84.7	87.0
1982	92.1	87.4	76.3	82.8	87.3
1983	103.0	97.3	87.1	84.6	89.5
1984	96.8	94.3	87.6	90.5	92.9
1985	94.7	94.7	90.9	96.0	96.0
1986	96.4	96.5	94.5	98.0	97.9
1987	100.0	100.0	100.0	100.0	100.0
1988	95.2	96.6	102.3	107.5	105.9
1989	97.6	99.2	102.6	105.1	103.4
1990	92.2	93.5	98.5	106.8	105.4
1991	88.4	88.8	95.9	108.5	108.0
1992 <sup>2</sup>	92.8	91.8	101.1	108.9	110.1
Average annual percent change:					
1972-92	.2	-.1	.9	.6	1.0
1973-91	.2	-.1	.8	.6	.9

<sup>1</sup> All persons include paid employees and the self-employed.

<sup>2</sup> Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of Labor Statistics and the Bureau of the Census. Persons and hours based on data from the Bureau of Labor Statistics; the Bureau of the Census; and the Internal Revenue Service, U.S. Department of the Treasury.

**Table 178. Beauty shops (SIC 7231): Indexes of output per hour and related measures, 1972-92**  
(1987=100)

Year	Output per hour of all persons <sup>1</sup>	Output per person	Output	Hours of all persons	All persons
Index:					
1972	91.1	93.5	73.5	80.7	78.6
1973	88.1	90.3	72.3	82.1	80.1
1974	87.9	88.0	70.5	80.2	80.1
1975	82.9	82.1	66.9	80.7	81.5
1976	78.1	78.5	64.6	82.7	82.3
1977	82.6	82.9	70.7	85.4	85.3
1978	86.7	86.4	75.1	86.6	86.9
1979	89.4	87.9	76.7	85.8	87.3
1980	88.1	85.3	75.9	86.2	89.0
1981	95.0	91.0	74.4	78.3	81.8
1982	94.4	88.1	73.5	77.9	83.4
1983	103.5	97.7	85.4	82.5	87.4
1984	98.4	95.3	86.8	86.2	91.1
1985	96.1	95.8	90.5	94.2	94.5
1986	96.9	96.7	94.0	97.0	97.2
1987	100.0	100.0	100.0	100.0	100.0
1988	93.4	95.4	102.5	109.8	107.4
1989	96.0	98.1	104.0	108.3	106.0
1990	91.4	93.1	99.3	105.7	106.7
1991	87.6	88.9	96.4	110.1	108.4
1992 <sup>2</sup>	90.5	90.7	102.3	113.0	112.8
Average annual percent change:					
1972-92	.0	-.2	1.7	1.7	1.8
1973-91	.0	-.1	1.6	1.6	1.7

<sup>1</sup> All persons include paid employees and the self-employed.

<sup>2</sup> Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of Labor Statistics and the Bureau of the Census. Persons and hours based on data from the Bureau of Labor Statistics; the Bureau of the Census; and the Internal Revenue Service, U.S. Department of the Treasury.

**Table 179. Automotive repair shops (SIC 753): Indexes of output per hour and related measures, 1972-92**  
(1987=100)

Year	Output per hour of all persons <sup>1</sup>	Output per person	Output	Hours of all persons	All persons
Index:					
1972	109.0	111.5	58.4	53.6	52.4
1973	109.7	114.7	62.4	56.9	54.4
1974	113.7	118.6	65.6	57.7	55.3
1975	107.0	109.7	65.3	61.0	59.5
1976	109.5	112.2	68.9	62.9	61.4
1977	104.9	106.5	70.3	67.0	66.0
1978	105.8	107.0	74.6	70.5	69.7
1979	105.3	107.9	78.8	74.8	73.0
1980	100.7	102.5	75.2	74.7	73.4
1981	98.1	98.4	72.5	73.9	73.7
1982	91.8	92.4	71.8	78.2	77.7
1983	89.9	91.1	76.0	84.5	83.4
1984	91.8	92.6	83.3	90.7	90.0
1985	99.4	100.0	96.2	96.8	96.2
1986	96.2	96.0	96.3	100.1	97.3
1987	100.0	100.0	100.0	100.0	100.0
1988	105.6	105.5	108.2	102.5	102.6
1989	107.8	109.2	112.8	104.6	103.3
1990	106.4	107.9	112.1	105.4	103.9
1991	99.9	100.4	103.5	103.6	103.1
1992 <sup>2</sup>	103.2	104.8	110.2	106.8	105.2
Average annual percent change:					
1972-92	-.3	-.3	3.2	3.5	3.5
1973-91	-.5	-.7	2.9	3.4	3.6

<sup>1</sup> All persons include paid employees, unpaid family workers, and the self-employed.

<sup>2</sup> Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of Labor Statistics and the Bureau of the Census. Persons and hours based on data from the Bureau of Labor Statistics; the Bureau of the Census; and the Internal Revenue Service, U.S. Department of the Treasury.

## Part II. Multifactor Productivity Trends for Selected Industries

In multifactor productivity measures, output is related to combined inputs of labor, capital, and intermediate purchases. The relationship between multifactor productivity and labor productivity (in which output is related only to labor input) is shown in table 180.

Multifactor productivity is equal to output per hour minus the effects of changes in capital per hour and intermediate purchases per hour. These effects are measured as the change in the ratio of nonlabor to labor inputs, weighted by the nonlabor input's share in the total cost of output. The capital effect, for example, is the change in the capital-labor ratio weighted by capital's share in the total cost of output. Although multifactor productivity is free of these effects of changes in other inputs relative to labor, it is still influenced by factors such as economies of scale, capacity utilization, and skill and effort of the work force as well as technological change.

Tables 181-194 present indexes of multifactor productivity, single factor productivity, (where output is related to each single factor alone) and indexes of output, combined inputs, and inputs of labor, capital, and intermediate purchases separately. Annual data on the aggregate value of output and the costs of each input are available upon request for each of these industries.

### Current developments

Multifactor productivity increased during 1991 in only two of the seven industries studied: footwear (2.1 percent) and railroad transportation (3.3 percent). Declines in multifactor productivity were recorded in household furniture (0.8

percent), tires and inner tubes (1.1 percent), steel (6.1 percent), farm and garden machinery (4.7 percent), and in motor vehicles and equipment (1.2 percent).

In footwear, the 2.1-percent multifactor productivity gain resulted from the output decrease of 9.2 percent being exceeded by the 11.1-percent reduction in combined inputs. All inputs declined—capital at 4.7 percent, labor at 9.5 percent, and intermediate purchases at 13.4 percent. Similarly, the 3.3-percent rise in multifactor productivity in railroad transportation was the result of a reduction in combined inputs (3.9 percent) more than matching an output decline (0.7 percent). Only slight declines were recorded for capital (1.9 percent) and intermediate purchases (0.1 percent) but employee hours fell by 7.7 percent.

Multifactor productivity in household furniture dropped by 0.8 percent in 1991. The output decline of 4.4 percent, the largest decrease for this industry since 1982, was not quite matched by the 3.7-percent reduction in combined inputs. All inputs fell—capital by 0.8 percent, intermediate purchases by 2.9 percent, and labor by 6.6 percent. A multifactor productivity decrease of 1.1 percent occurred in the tires and inner tubes industry. Output fell 4.7 percent while combined inputs dropped 3.7 percent. Each input declined in this industry, with labor hours down 5.9 percent, capital off 0.6 percent, and intermediate purchases 4.1 percent less than the previous year. The steel industry suffered a 6.1-percent drop in multifactor productivity in 1991. Output fell 9.4 percent but combined inputs were reduced by only 3.4 percent. Labor hours declined 6.3 percent, while decreases in capital and intermediate purchases were not as

**Table 180. Multifactor productivity growth and its relation to output per hour for selected industries, 1958-91**  
(Average annual percent change)<sup>1</sup>

Industry	Multifactor productivity	equals	Output per hour	minus	Capital effect <sup>2</sup>	minus	Intermediate purchases effect <sup>3</sup>
Household furniture .....	0.5		1.8		0.3		1.0
Tires and inner tubes .....	2.3		3.9		.4		1.1
Footwear .....	-1.1		.4		.5		.9
Steel .....	1.4		3.0		.0		1.5
Farm and garden machinery .....	.2		1.4		.3		.9
Motor Vehicles and equipment .....	1.3		2.9		-.1		1.7
Railroad transportation .....	3.9		5.8		.5		1.3

<sup>1</sup> Data on the average annual percent change are based on compound rates of change. Each measure presented in this table is computed independently. Therefore, output per hour minus the capital effect minus the intermediate purchases effect may not exactly equal multifactor productivity.

<sup>2</sup> The capital effect is the change in capital relative to labor over the given time

period weighted by the share of capital in the total cost of output.

<sup>3</sup> The intermediate purchases effect is the change in intermediate purchases relative to labor over the given time period weighted by the share of intermediate purchases in the total cost of output.



sharp (2.1 percent and 2.4 percent, respectively).

A 12.2-percent drop in output coupled with a 7.9-percent reduction in combined inputs yielded a 4.7-percent drop in multifactor productivity for the farm and garden machinery industry. Substantial declines occurred in inputs of labor (8.9 percent) and intermediate purchases (9.2 percent), while capital was off 4.5 percent. Multifactor productivity in motor vehicles and equipment slipped 1.2 percent as output fell 8.8 percent and combined inputs declined 7.7 percent. Capital input actually rose in this industry (by 2.1 percent), but labor hours were reduced 3.5 percent and intermediate purchases dropped 11.6 percent.

### Long-term trends

Charts 2-8 illustrate the overall long-term results in the industries for which multifactor measures have been developed. These results are presented in terms of multifactor productivity and its relation to labor productivity. Multifactor productivity grew 0.5 percent per year in the household furniture industry over the 1958-91 period. This growth rate was somewhat slower (which is typical of many industries) than the 1.8-percent average gain in output per hour. The difference between these growth rates is accounted for by a 0.3-percent increase in the capital effect and a 1.0-percent rise in the intermediate purchases effect.

In the tires and tubes industry (chart 3), multifactor productivity rose at an average annual rate of 2.3 percent per year from 1958 to 1991. This increase was again slower than the 3.9-percent average annual growth rate for output per hour as the inputs of capital and intermediate purchases grew relative to labor, yielding weighted effects of 0.4 percent for capital and 1.1 percent for intermediate purchases. In footwear (chart 4), multifactor productivity fell at an average rate of 1.1 percent per year over the 1958-91 period. The gain in output per hour was more than offset by the weighted effects of increases in capital per hour (0.5 percent) and intermediate purchases per hour (0.9 percent). In steel (chart 5), multifactor productivity increased at a rate of 1.4 percent per year, on average, from 1958 to 1991. Output per hour rose at an average annual rate of 3.0 percent per year over the period, while the capital effect showed no change on average, and the intermediate purchases effect gained 1.5 percent.

Multifactor productivity grew only slightly, by 0.2 percent per year on average, over the whole period in the farm and garden machinery industry (chart 6), as the weighted increases in inputs of capital relative to labor (0.3 percent) and intermediate purchases to labor (0.9 percent) were almost as much as the gain in output per hour (1.4 percent). The 2.9-percent average annual rise in output per hour in the motor vehicles and equipment industry (chart 7) over the period, along with a 1.7-percent average increase in the intermediate purchases effect and a decline of 0.1 percent on average in the capital effect, netted out to a 1.3-percent average gain in multifactor productivity. A 3.9-percent average annual increase in multifactor productivity was re-

corded in railroad transportation (chart 8). Output per hour gained 5.8 percent per year on average, while the capital effect and intermediate purchases effect grew 0.5 percent and 1.3 percent, respectively.

### New industry measure

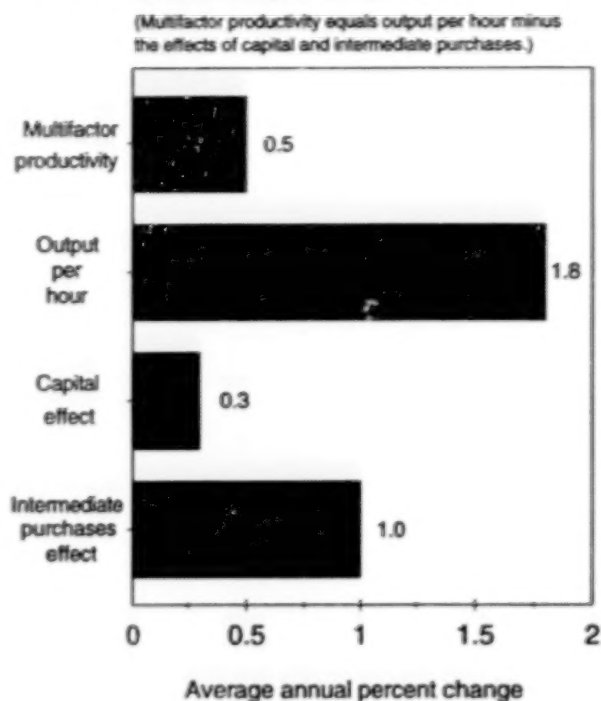
*Household furniture (SIC 251).* Multifactor productivity in the household furniture industry grew at an average annual rate of 0.5 percent over the entire 1958-91 period. This resulted from the average annual increase in output of 2.1 percent exceeding the 1.5-percent growth, on average, in combined inputs. Labor productivity grew at a 1.8-percent average annual rate over this period. The difference between labor productivity and multifactor productivity was the result of increases in the capital effect (the change in the capital-labor ratio over time multiplied by the share of capital in the total cost of output) of 0.3 percent and in the intermediate purchases effect (the change in the ratio of intermediate purchases to labor over time multiplied by the share of intermediate purchases in the total cost of output) of 1.0 percent. (See chart 2.)

After averaging 1.0 percent for the 1958-73 period, annual multifactor productivity growth ebbed over the remainder of the study. Average annual growth in multifactor productivity fell to 0.2 percent during the period 1973 to 1979, and to 0.1 percent over the 1979-91 period. Over the 1979-91 period, the 1.7-percent average annual increase in labor productivity resulted primarily from the 1.4-percent average rise in the intermediate purchases effect. Intermediate purchases were substituted for labor as the intermediate purchases-labor ratio grew at an average annual rate of 2.5 percent from 1979 to 1991.

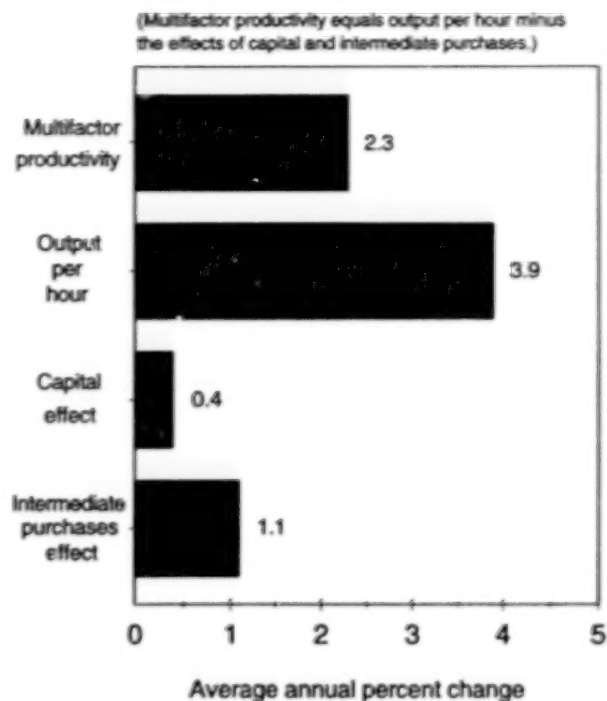
Average output growth in the household furniture industry has lagged behind that of the business sector over the period of study. After rising at an annual average rate of 4.7 percent from 1958 to 1973, household furniture output fell 0.1 percent per year over the 1973-79 period. High interest rates and housing market volatility influenced the decline. From 1979 to 1991, output held constant, on average. Increased import penetration, especially in wood home furnishings, tempered output growth over this period.

Technological changes over the review period have had a modest effect on productivity. Technological innovations in the household furniture industry have stemmed primarily from the advent of computer technology and the introduction or creation of new materials. Computer aided design and computer aided manufacturing (CAD/CAM) systems have demonstrated benefits such as the reduction of manual operations, increased production line flexibility, production to closer tolerances, and consistent and improved quality. Materials such as plastics and medium density fiberboard have been increasingly used as quality woods have become more expensive. Changes in technology have not diffused widely or rapidly throughout the industry, but rather have been concentrated in the industry's largest manufacturers.

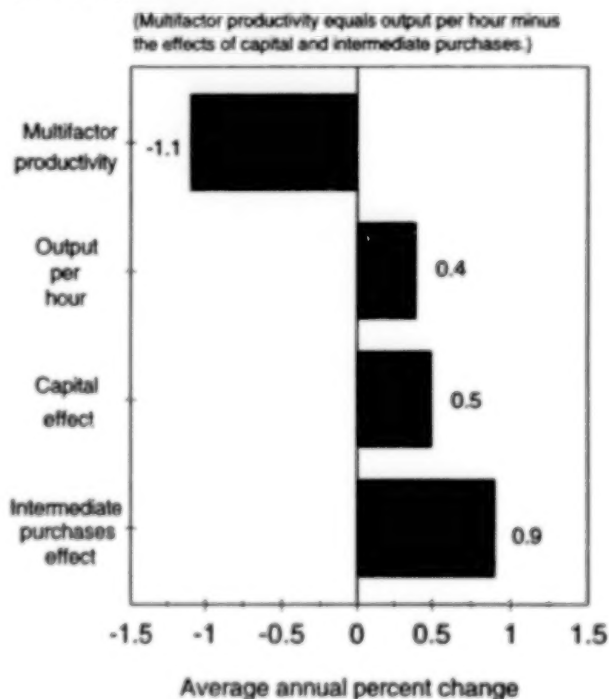
**Chart 2. Multifactor productivity for household furniture (SIC 251), 1958-91**



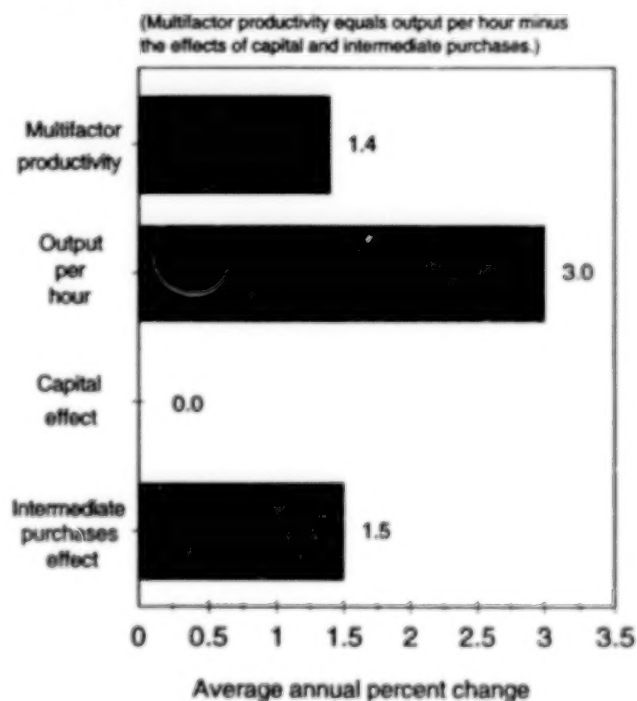
**Chart 3. Multifactor productivity for tires and inner tubes (SIC 3011), 1958-91**



**Chart 4. Multifactor productivity for footwear (SIC 314), 1958-91**



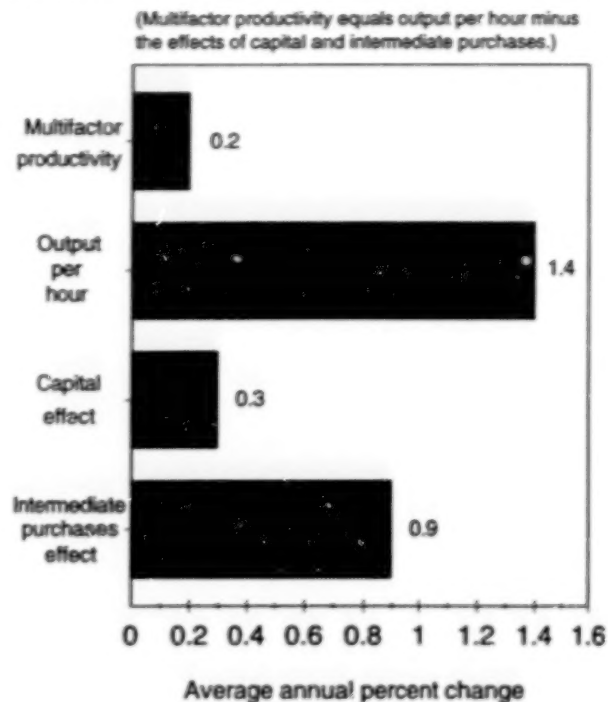
**Chart 5. Multifactor productivity for steel (SIC 331), 1958-91**



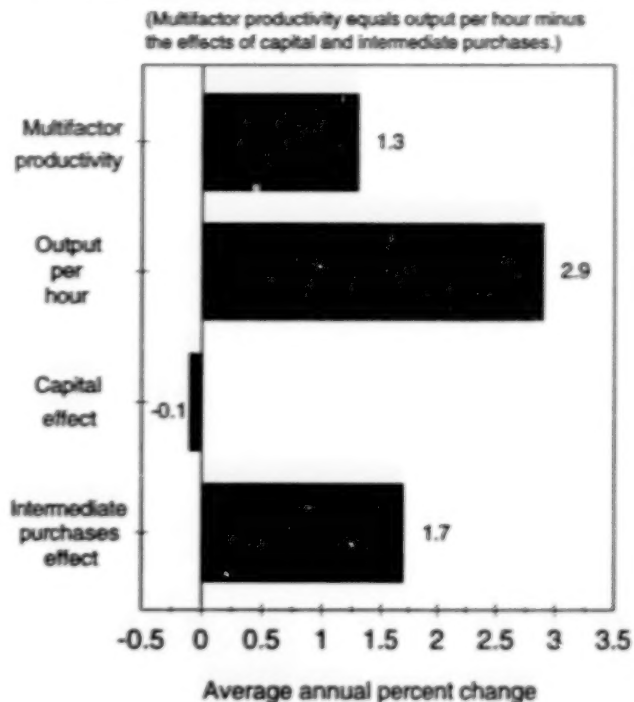
Note: Average annual percent change using compound rate formula.



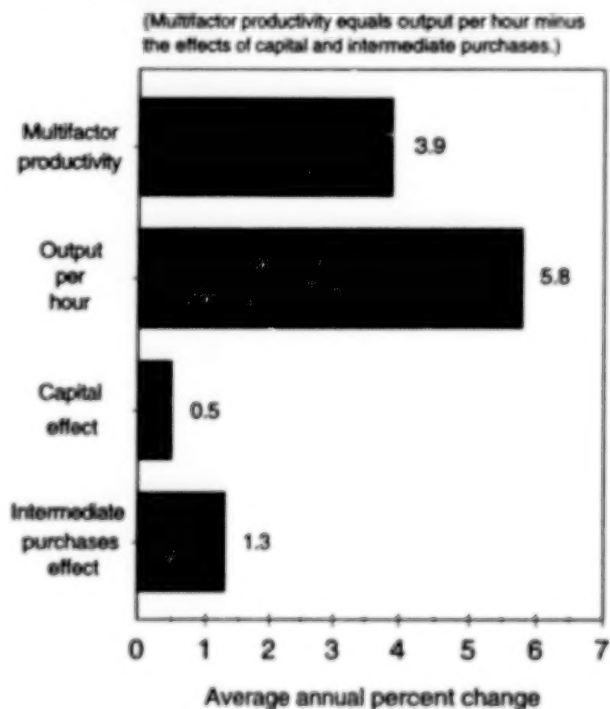
**Chart 6. Multifactor productivity for farm and garden machinery (SIC 352), 1958-91**



**Chart 7. Multifactor productivity for motor vehicles and equipment (SIC 371), 1958-91**



**Chart 8. Multifactor productivity for railroad transportation (SIC 4011), 1958-91**



Note: Average annual percent change using compound rate formula.

**Table 181. Household furniture (SIC 251): Multifactor and related productivity indexes,<sup>1</sup>  
1967-91  
(1967 = 100)**

Year	Multifactor productivity	Output per hour	Output per unit of capital	Output per unit of intermediate purchases
Index:				
1967	85.9	67.2	98.9	93.7
1968	87.5	68.5	103.1	94.8
1969	88.7	69.3	102.1	96.8
1970	86.6	71.5	92.8	93.6
1971	88.3	74.2	96.4	95.9
1972	93.2	78.5	106.1	97.6
1973	96.1	80.9	102.9	102.4
1974	93.9	79.8	88.4	103.3
1975	89.5	81.6	74.9	97.6
1976	93.0	82.7	86.2	100.2
1977	94.7	83.7	91.7	101.5
1978	97.1	87.3	96.5	102.4
1979	97.1	86.1	91.9	104.3
1980	95.2	85.9	76.2	102.3
1981	96.8	88.5	86.2	103.8
1982	94.7	89.8	76.6	102.1
1983	97.0	91.8	84.9	102.8
1984	96.8	92.7	89.6	100.6
1985	95.6	94.0	87.9	98.1
1986	98.5	100.6	94.3	98.5
1987	100.0	100.0	100.0	100.0
1988	100.1	100.7	98.0	100.3
1989	99.1	102.7	97.9	97.6
1990	98.8	103.1	96.0	97.0
1991	97.8	105.5	92.5	95.5
Average annual percent change:				
1968-91	.5	1.8	-2	.1
1973-91	.1	1.5	-6	-4

<sup>1</sup> The output measures underlying the productivity indexes relate to the total net production of the industry. They do not relate to the specific output of any single factor of production.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the International Sleep Products Association, the Bureau of the Census, and the Bureau of Labor Statistics. Hours based on data from the Bureau of Labor

Statistics. Capital based on data from the Internal Revenue Service, U.S. Department of the Treasury; Moody's Investor's Service; the Bureau of Economic Analysis, U.S. Department of Commerce; the Bureau of the Census; and the Bureau of Labor Statistics. Intermediate purchases based on data from the Bureau of Economic Analysis; the Bureau of the Census; and the Bureau of Labor Statistics.

**Table 182. Household furniture (SIC 251): Output and input indexes, 1967-91  
(1967 = 100)**

Year	Output	Combined inputs	Hours	Capital	Intermediate purchases
Index:					
1967	65.9	76.7	98.1	66.6	70.3
1968	70.5	80.6	102.9	68.4	74.4
1969	72.7	82.0	104.9	71.2	75.1
1970	69.9	80.7	97.8	75.3	74.7
1971	75.2	85.2	101.4	78.0	80.1
1972	88.5	95.0	112.7	83.4	90.7
1973	93.4	97.2	115.4	90.8	91.2
1974	85.4	90.9	107.0	96.6	82.7
1975	72.7	81.2	89.1	87.1	74.5
1976	82.0	86.2	99.2	95.1	81.8
1977	89.1	94.1	106.4	97.2	87.8
1978	95.8	98.7	109.7	99.3	93.6
1979	93.1	95.9	108.1	101.3	89.3
1980	87.4	91.8	101.8	101.4	85.4
1981	87.4	90.3	98.8	101.4	84.2
1982	77.1	81.4	85.9	100.7	75.5
1983	84.6	87.2	92.2	99.6	82.3
1984	89.9	92.9	97.0	100.3	89.4
1985	88.1	92.2	93.7	100.2	89.8
1986	93.5	94.9	92.9	99.2	94.9
1987	100.0	100.0	100.0	100.0	100.0
1988	99.2	99.1	98.5	101.2	98.9
1989	99.4	100.3	96.8	101.5	101.8
1990	97.1	98.5	94.2	101.1	100.1
1991	92.8	94.9	88.0	100.3	97.2
Average annual percent change:					
1968-91	2.1	1.6	.2	2.3	2.0
1973-91	.0	-.1	-1.5	.6	.4

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the International Sleep Products Association, the Bureau of the Census, and the Bureau of Labor Statistics. Hours based on data from the Bureau of Labor Statistics. Capital based on data from the Internal Revenue

Service, U.S. Department of the Treasury; Moody's Investor's Service; the Bureau of Economic Analysis, U.S. Department of Commerce; the Bureau of the Census; and the Bureau of Labor Statistics. Intermediate purchases based on data from the Bureau of Economic Analysis; the Bureau of the Census; and the Bureau of Labor Statistics.

**Table 183. Tires and inner tubes (SIC 3011): Multifactor and related productivity indexes,<sup>1</sup> 1967-91**  
(1967 = 100)

Year	Multifactor productivity	Output per hour	Output per unit of capital	Output per unit of intermediate purchases
Index:				
1967	57.0	49.1	64.7	60.2
1968	60.0	52.4	72.0	62.2
1969	57.7	50.8	65.6	60.4
1970	57.1	52.0	57.7	60.8
1971	60.6	55.8	63.1	63.6
1972	61.8	57.9	67.3	63.3
1973	61.3	56.2	64.9	64.0
1974	60.1	55.0	62.6	63.2
1975	57.7	54.2	62.6	62.4
1976	60.1	58.3	55.9	63.4
1977	66.1	59.6	72.1	69.4
1978	66.5	64.5	71.8	71.3
1979	69.9	64.2	71.6	73.9
1980	66.5	61.0	58.4	76.6
1981	74.4	70.4	66.3	80.1
1982	79.0	76.7	67.7	85.2
1983	85.1	82.1	78.7	89.2
1984	89.5	89.3	94.8	88.0
1985	88.8	89.7	89.4	88.4
1986	91.8	92.7	87.4	93.3
1987	100.0	100.0	100.0	100.0
1988	101.3	104.6	106.8	97.6
1989	103.7	107.2	106.9	100.8
1990	105.1	108.2	101.1	105.3
1991	103.9	109.5	96.8	104.6
Average annual percent change:				
1968-91	2.3	3.9	1.4	1.9
1973-91	3.0	3.8	2.2	2.8

<sup>1</sup> The output measures underlying the productivity indexes relate to the total net production of the industry. They do not relate to the specific output of any single factor of production.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Rubber Manufacturers Association, the Bureau of the Census, and the Bureau of Labor Statistics. Hours based on data from the Bureau of the Census and

the Bureau of Labor Statistics. Capital based on data from the Internal Revenue Service, U.S. Department of the Treasury, Moody's Investor's Service; the Bureau of Economic Analysis, U.S. Department of Commerce; the Bureau of the Census; and the Bureau of Labor Statistics. Intermediate purchases based on data from the Bureau of Economic Analysis, the Bureau of the Census; and the Bureau of Labor Statistics.

**Table 184. Tires and inner tubes (SIC 3011): Output and input indexes, 1967-91**  
(1967 = 100)

Year	Output	Combined inputs	Hours	Capital	Intermediate purchases
Index:					
1967	67.5	118.5	137.4	104.4	112.2
1968	81.9	136.4	156.3	113.8	131.6
1969	83.9	145.3	165.2	127.9	138.9
1970	78.4	139.1	152.6	137.7	130.6
1971	89.1	147.0	159.6	141.3	140.1
1972	97.3	157.5	166.0	144.6	153.7
1973	98.1	160.1	174.4	151.2	153.2
1974	99.4	165.5	180.7	158.9	157.3
1975	96.0	149.0	158.6	163.5	137.8
1976	85.4	142.0	143.9	152.9	134.6
1977	104.8	158.6	175.7	145.4	151.0
1978	101.8	148.6	157.9	142.1	142.7
1979	98.6	141.1	153.6	137.8	133.5
1980	77.1	112.5	126.4	132.1	100.6
1981	82.8	111.3	117.6	124.8	103.4
1982	78.5	99.4	102.3	118.0	92.1
1983	84.2	99.0	102.6	107.0	94.4
1984	87.1	106.5	106.7	102.4	110.3
1985	82.8	104.5	103.5	103.8	105.0
1986	90.1	98.1	97.2	103.1	96.6
1987	100.0	100.0	100.0	100.0	100.0
1988	104.7	103.4	100.1	98.0	107.3
1989	106.9	103.1	99.7	100.0	106.1
1990	105.3	100.2	97.3	104.2	100.0
1991	100.3	96.5	91.6	103.6	95.9
Average annual percent change:					
1968-91	2.7	3	-1.1	1.3	.8
1973-91	.1	-2.8	-3.5	-2.1	-2.6

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Rubber Manufacturers Association, the Bureau of the Census, and the Bureau of Labor Statistics. Hours based on data from the Bureau of the Census and the Bureau of Labor Statistics. Capital based on data

from the Internal Revenue Service, U.S. Department of the Treasury, Moody's Investor's Service; the Bureau of Economic Analysis, U.S. Department of Commerce; the Bureau of the Census; and the Bureau of Labor Statistics. Intermediate purchases based on data from the Bureau of Economic Analysis, the Bureau of the Census; and the Bureau of Labor Statistics.

**Table 185. Footwear (SIC 314): Multifactor and related productivity indexes,<sup>1</sup> 1967-91**  
(1967 = 100)

Year	Multifactor productivity	Output per hour	Output per unit of capital	Output per unit of intermediate purchases
Index:				
1967	117.0	87.8	197.8	117.7
1968	119.9	90.9	205.6	119.2
1969	112.6	85.2	177.7	115.3
1970	115.0	91.6	176.1	114.9
1971	114.0	93.2	170.9	112.8
1972	112.8	91.0	172.7	111.6
1973	112.1	90.0	158.4	114.2
1974	108.4	89.0	146.1	110.8
1975	107.6	92.5	139.9	108.1
1976	110.1	93.1	150.6	110.0
1977	110.8	94.8	147.7	110.7
1978	111.7	96.5	147.8	111.3
1979	116.5	94.6	145.0	121.8
1980	107.4	93.0	139.8	107.4
1981	102.8	90.1	134.7	101.9
1982	107.2	100.5	130.2	105.0
1983	105.9	98.7	126.5	104.6
1984	104.3	99.6	116.3	103.7
1985	98.1	100.0	104.5	95.8
1986	97.5	101.8	97.7	95.6
1987	100.0	100.0	100.0	100.0
1988	100.6	102.4	102.7	99.4
1989	96.0	101.4	97.9	93.3
1990	96.1	93.0	87.2	83.0
1991	87.9	93.3	83.1	87.0
Average annual percent change:				
1968-91	-1.1	.4	-2.9	-1.4
1973-91	-1.3	.2	-3.5	-1.5

<sup>1</sup> The output measures underlying the productivity indexes relate to the total net production of the industry. They do not relate to the specific output of any single factor of production.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of the Census. Hours based on data from the Bureau of the Census and the Bureau

of Labor Statistics. Capital based on data from the Internal Revenue Service, U.S. Department of the Treasury; Moody's Investor's Service; the Bureau of Economic Analysis, U.S. Department of Commerce; the Bureau of the Census, and the Bureau of Labor Statistics. Intermediate purchases based on data from the Bureau of Economic Analysis, the Bureau of the Census, and the Bureau of Labor Statistics.

**Table 186. Footwear (SIC 314): Output and input indexes, 1967-91**  
(1967 = 100)

Year	Output	Combined inputs	Hours	Capital	Intermediate purchases
Index:					
1967	257.3	219.9	293.2	130.1	218.6
1968	273.6	228.2	301.0	133.1	229.5
1969	245.2	217.8	287.9	137.8	212.7
1970	241.6	210.1	283.8	137.2	210.2
1971	227.6	199.6	244.2	133.2	201.7
1972	225.5	200.2	247.9	130.6	202.1
1973	211.8	189.0	233.3	133.7	195.4
1974	196.5	181.2	220.8	134.5	177.4
1975	182.3	189.4	197.1	130.3	168.6
1976	188.8	171.5	202.7	125.4	171.7
1977	185.7	167.6	195.8	125.7	167.7
1978	184.7	165.3	191.3	125.0	165.9
1979	174.6	149.9	184.6	129.4	143.3
1980	167.8	156.2	180.4	120.0	156.2
1981	163.2	158.8	181.1	121.2	160.2
1982	160.2	149.5	159.4	123.0	152.6
1983	150.0	141.6	151.9	118.6	143.4
1984	133.3	127.8	133.8	114.6	128.6
1985	115.4	117.6	115.4	110.4	120.4
1986	102.5	105.1	100.7	104.9	107.2
1987	100.0	100.0	100.0	100.0	100.0
1988	99.4	98.8	97.1	96.8	100.0
1989	92.4	96.2	91.1	94.4	98.0
1990	79.4	90.2	85.4	91.1	95.7
1991	72.1	82.0	77.3	88.8	82.9
Average annual percent change:					
1968-91	-3.7	-2.7	-4.1	-8	-2.4
1973-91	-5.8	-4.5	-6.0	-2.4	-4.4

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of the Census. Hours based on data from the Bureau of the Census and the Bureau of Labor Statistics. Capital based on data from the Internal Revenue Service, U.S. Department of the Treasury;

Moody's Investor's Service; the Bureau of Economic Analysis, U.S. Department of Commerce; the Bureau of the Census, and the Bureau of Labor Statistics. Intermediate purchases based on data from the Bureau of Economic Analysis, the Bureau of the Census, and the Bureau of Labor Statistics.

**Table 187. Steel (SIC 331): Multifactor and related productivity indexes,<sup>1</sup> 1967-91**  
(1967=100)

Year	Multifactor productivity	Output per hour	Output per unit of capital	Output per unit of intermediate purchases
Index:				
1967	66.8	52.4	78.5	77.7
1968	67.3	53.4	79.1	77.4
1969	68.2	54.6	81.1	77.7
1970	67.3	53.6	75.1	78.4
1971	68.3	56.0	72.5	79.3
1972	69.7	58.6	80.2	76.9
1973	75.6	64.2	76.0	81.2
1974	80.8	67.6	103.8	87.4
1975	89.7	59.3	78.7	77.4
1976	73.7	61.7	83.0	82.7
1977	73.3	61.8	84.6	81.6
1978	76.5	65.1	93.4	83.7
1979	75.8	65.0	97.4	81.1
1980	73.6	65.4	84.9	79.1
1981	73.1	69.3	92.5	75.2
1982	68.6	60.6	82.0	74.6
1983	82.1	73.8	70.3	88.2
1984	85.3	81.3	81.4	88.3
1985	86.7	86.8	81.7	88.3
1986	88.5	89.7	82.4	89.2
1987	100.0	100.0	100.0	100.0
1988	106.5	113.4	123.8	103.6
1989	102.5	106.5	120.8	94.6
1990	104.3	110.5	124.4	110.0
1991	97.9	106.8	115.2	99.1
Average annual percent change:				
1968-91	1.4	3.0	1.8	.2
1973-91	1.4	2.9	1.0	.5

<sup>1</sup> The output measures underlying the productivity indexes relate to the total net production of the industry. They do not relate to the specific output of any single factor or production.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the American Iron and Steel Institute, the Energy Information Administration, U.S. Department of Energy, and the Bureau of the Census. Hours based on data from the

American Iron and Steel Institute and the Bureau of Labor Statistics. Capital based on data from the Internal Revenue Service, U.S. Department of the Treasury; Moody's Investor's Service; the Bureau of Economic Analysis, U.S. Department of Commerce; the Bureau of the Census; and the Bureau of Labor Statistics. Intermediate purchases based on data from the Bureau of Economic Analysis; the Bureau of the Census; and the Bureau of Labor Statistics.

**Table 188. Steel (SIC 331): Output and input indexes, 1967-91**  
(1967=100)

Year	Output	Combined inputs	Hours	Capital	Intermediate purchases
Index:					
1967	114.1	170.7	217.6	145.3	146.9
1968	119.1	177.0	223.0	150.5	153.9
1969	124.0	181.8	227.1	152.8	159.6
1970	117.5	171.7	215.8	153.7	147.3
1971	109.6	160.5	195.6	151.2	138.2
1972	118.0	168.2	196.0	147.2	153.4
1973	138.1	182.7	215.2	143.8	170.0
1974	145.5	180.0	215.2	140.2	186.5
1975	110.5	158.6	186.2	140.4	142.8
1976	117.0	158.7	189.7	141.0	141.4
1977	118.8	162.0	192.3	140.4	145.6
1978	129.2	188.8	198.6	138.3	154.3
1979	132.3	174.5	200.9	135.8	163.2
1980	113.3	154.0	173.3	133.4	143.2
1981	121.3	186.0	175.0	131.2	161.4
1982	79.1	115.3	130.5	127.5	106.0
1983	86.0	104.8	118.5	122.4	97.5
1984	95.2	111.8	117.1	117.0	107.8
1985	91.7	105.8	106.9	112.3	103.8
1986	87.8	99.2	97.9	106.5	98.4
1987	100.0	100.0	100.0	100.0	100.0
1988	118.2	107.9	104.2	95.6	114.1
1989	112.2	106.5	103.4	92.9	118.6
1990	113.0	108.3	102.3	90.8	117.7
1991	102.4	104.6	95.9	88.9	114.0
Average annual percent change:					
1968-91	.8	-.6	-2.1	-1.0	.6
1973-91	-1.8	-3.1	-4.4	-2.6	-2.2

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the American Iron and Steel Institute, the Energy Information Administration, U.S. Department of Energy, and the Bureau of the Census. Hours based on data from the American Iron and Steel Institute and the

Bureau of Labor Statistics. Capital based on data from the Internal Revenue Service, U.S. Department of the Treasury; Moody's Investor's Service; the Bureau of Economic Analysis, U.S. Department of Commerce; the Bureau of the Census; and the Bureau of Labor Statistics. Intermediate purchases based on data from the Bureau of Economic Analysis, the Bureau of the Census, and the Bureau of Labor Statistics.

**Table 189. Farm and garden machinery (SIC 352): Multifactor and related productivity indexes,<sup>1</sup> 1967-91**  
(1987 = 100)

Year	Multifactor productivity	Output per hour	Output per unit of capital	Output per unit of intermediate purchases
Index:				
1967	100.1	81.6	154.6	95.0
1968	99.1	81.2	142.6	95.8
1969	95.7	77.7	130.0	94.4
1970	96.3	79.5	128.5	94.8
1971	99.8	85.9	131.5	95.5
1972	102.9	94.3	146.3	94.5
1973	105.9	97.9	156.2	95.7
1974	111.6	100.1	158.1	103.7
1975	106.1	93.7	142.2	98.5
1976	107.0	102.6	136.5	100.2
1977	106.1	101.3	136.4	99.3
1978	104.1	98.8	126.2	100.1
1979	105.4	99.1	145.0	96.6
1980	101.1	91.4	121.6	99.4
1981	97.9	92.1	116.5	94.9
1982	96.7	89.1	93.6	102.5
1983	94.0	87.4	87.7	101.0
1984	99.7	97.4	100.2	100.7
1985	95.5	92.0	90.0	100.1
1986	92.6	92.5	85.8	96.0
1987	100.0	100.0	100.0	100.0
1988	105.0	105.6	116.6	99.2
1989	105.7	109.1	122.3	96.8
1990	111.6	115.0	136.9	99.4
1991	106.4	110.9	125.9	96.2
Average annual percent change:				
1958-91	.2	1.4	-.4	-.2
1973-91	.0	.7	-1.2	.0

<sup>1</sup> The output measures underlying the productivity indexes relate to the total net production of the industry. They do not relate to the specific output of any single factor of production.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics. Capital based on data

from the Internal Revenue Service, U.S. Department of the Treasury; Moody's Investor's Service; the Bureau of Economic Analysis, U.S. Department of Commerce; the Bureau of the Census; and the Bureau of Labor Statistics. Intermediate purchases based on data from the Bureau of Economic Analysis; the Bureau of the Census; and the Bureau of Labor Statistics.

**Table 190. Farm and garden machinery (SIC 352): Output and input indexes, 1967-91**  
(1987 = 100)

Year	Output	Combined inputs	Hours	Capital	Intermediate purchases
Index:					
1967	143.8	143.7	176.3	93.0	151.4
1968	137.9	139.2	169.8	96.7	144.0
1969	127.4	133.1	163.9	98.0	134.9
1970	125.7	130.5	158.2	97.8	132.6
1971	126.9	127.2	147.8	96.5	131.5
1972	148.6	144.4	157.5	101.6	157.2
1973	177.6	167.7	181.4	113.7	185.5
1974	200.6	179.7	200.4	126.5	193.5
1975	187.8	177.0	186.4	132.1	190.7
1976	184.5	172.4	179.9	135.2	184.1
1977	186.3	175.6	183.9	136.6	187.7
1978	172.3	165.5	174.4	136.5	172.1
1979	202.4	192.1	204.2	139.6	209.5
1980	170.0	168.2	186.0	139.8	171.0
1981	157.5	160.9	171.1	135.2	165.9
1982	120.9	125.0	135.7	129.2	117.9
1983	105.6	112.3	120.8	121.0	104.6
1984	116.8	117.2	119.9	116.6	116.0
1985	100.4	105.1	109.1	111.6	100.3
1986	89.4	96.5	96.6	104.2	93.1
1987	100.0	100.0	100.0	100.0	100.0
1988	116.4	110.9	110.2	99.8	117.3
1989	119.5	113.1	109.5	97.7	123.5
1990	129.0	115.6	112.2	94.2	129.8
1991	113.3	106.5	102.2	90.0	117.8
Average annual percent change:					
1958-91	.5	.3	-.9	.9	.7
1973-91	-2.5	-2.5	-3.1	-1.3	-2.5

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics. Capital based on data from the Internal Revenue Service,

U.S. Department of the Treasury; Moody's Investor's Service; the Bureau of Economic Analysis, U.S. Department of Commerce; the Bureau of the Census; and the Bureau of Labor Statistics. Intermediate purchases based on data from the Bureau of Economic Analysis; the Bureau of the Census; and the Bureau of Labor Statistics.



**Table 191. Motor vehicles and equipment (SIC 371): Multifactor and related productivity indexes,<sup>1</sup> 1967-91**  
(1987 = 100)

Year	Multifactor productivity	Output per hour	Output per unit of capital	Output per unit of intermediate purchases
Index:				
1967	81.0	55.9	61.7	101.2
1968	87.4	60.7	73.3	105.7
1969	87.8	59.4	70.7	108.9
1970	81.4	57.1	56.3	103.9
1971	85.2	66.3	72.3	96.3
1972	88.7	67.6	79.3	101.6
1973	92.3	68.8	87.5	105.0
1974	91.6	65.7	71.8	110.7
1975	93.2	70.3	68.7	111.9
1976	96.5	75.1	89.4	112.3
1977	101.0	79.8	99.8	111.2
1978	100.7	79.5	98.0	111.4
1979	99.0	77.8	87.0	112.2
1980	89.3	71.7	62.2	103.8
1981	89.7	73.5	62.6	103.3
1982	89.8	76.7	56.5	103.3
1983	95.4	86.8	79.0	102.1
1984	99.5	91.1	101.3	101.7
1985	103.3	95.3	106.9	105.1
1986	98.1	95.1	100.1	98.5
1987	100.0	100.0	100.0	100.0
1988	103.6	103.3	106.3	102.9
1989	104.4	103.2	110.4	103.0
1990	98.9	102.5	100.4	97.4
1991	97.7	96.9	89.7	100.5
Average annual percent change:				
1958-91	1.3	2.9	2.8	.2
1973-91	.3	1.9	.1	-.2

<sup>1</sup> The output measures underlying the productivity indexes relate to the total net production of the industry. They do not relate to the specific output of any single factor of production.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from company records; the Motor Vehicle Manufacturers Association of the U.S., Inc.; the Gousha/Times Mirror Company (Automobile Invoice Service); Ward's Communications, Inc. (Ward's Automotive Yearbooks); the Bureau of the Census; and

the Bureau of Labor Statistics. Hours based on data from the Bureau of Labor Statistics and company records. Capital based on data from the Internal Revenue Service, U.S. Department of the Treasury; Moody's Investor's Service; the Bureau of Economic Analysis, U.S. Department of Commerce; the Bureau of the Census; and the Bureau of Labor Statistics. Intermediate purchases based on data from the Bureau of Economic Analysis; the Bureau of the Census; and the Bureau of Labor Statistics.

**Table 192. Motor vehicles and equipment (SIC 371): Output and input indexes, 1967-91**  
(1987 = 100)

Year	Output	Combined inputs	Hours	Capital	Intermediate purchases
Index:					
1967	51.6	63.7	92.3	83.6	51.0
1968	62.9	72.0	103.7	85.8	59.5
1969	62.6	71.3	105.3	88.5	57.5
1970	50.9	62.5	89.2	90.4	49.0
1971	63.9	75.0	96.4	88.4	65.0
1972	69.9	78.8	103.4	88.1	68.8
1973	80.4	87.1	116.8	91.9	76.6
1974	67.2	73.4	102.3	93.6	60.7
1975	62.1	66.6	88.3	90.4	55.5
1976	78.3	79.5	104.3	87.6	69.7
1977	91.1	90.2	114.1	91.3	81.9
1978	94.9	94.2	119.4	96.8	85.2
1979	87.6	88.5	112.6	100.7	78.1
1980	62.8	70.3	87.6	101.0	60.5
1981	65.5	73.0	89.1	104.6	63.4
1982	60.0	66.8	78.2	106.2	58.1
1983	77.1	80.8	88.8	97.6	75.5
1984	93.9	94.4	103.1	92.7	92.3
1985	100.4	97.2	105.3	93.9	95.5
1986	96.9	98.8	101.9	96.8	96.4
1987	100.0	100.0	100.0	100.0	100.0
1988	104.9	101.3	101.5	98.7	101.9
1989	105.1	100.7	101.8	95.2	102.0
1990	96.7	97.8	94.3	96.3	99.3
1991	88.2	90.3	91.0	98.3	87.8
Average annual percent change:					
1958-91	3.9	2.5	.9	1.0	3.7
1973-91	.5	.2	-1.4	.4	.8

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from company records; the Motor Vehicle Manufacturers Association of the U.S., Inc.; the Gousha/Times Mirror Company (Automobile Invoice Service); Ward's Communications, Inc. (Ward's Automotive Yearbooks); the Bureau of the Census; and the Bureau of Labor Statistics. Hours

based on data from the Bureau of Labor Statistics and company records. Capital based on data from the Internal Revenue Service, U.S. Department of the Treasury; Moody's Investor's Service; the Bureau of Economic Analysis, U.S. Department of Commerce; the Bureau of the Census; and the Bureau of Labor Statistics. Intermediate purchases based on data from the Bureau of Economic Analysis; the Bureau of the Census; and the Bureau of Labor Statistics.

**Table 193. Railroad transportation (SIC 4011): Multifactor and related productivity indexes,<sup>1</sup> 1967-91**  
(1967 = 100)

Year	Multifactor productivity	Output per hour	Output per unit of capital	Output per unit of intermediate purchases
Index:				
1967	50.8	34.8	63.8	81.0
1968	53.4	36.6	67.0	85.6
1969	54.6	37.9	69.1	84.0
1970	52.3	36.2	67.5	79.8
1971	53.9	38.6	67.5	78.8
1972	58.5	42.1	72.1	85.4
1973	64.1	46.5	80.4	91.0
1974	63.2	45.5	80.3	90.0
1975	59.0	43.3	70.8	84.1
1976	62.6	46.9	77.4	84.8
1977	65.3	49.1	82.6	86.8
1978	67.3	51.6	85.3	86.7
1979	68.9	54.3	88.1	84.6
1980	67.9	54.6	85.1	81.9
1981	67.7	55.1	83.8	81.0
1982	68.6	58.3	75.0	81.8
1983	80.2	72.0	82.0	92.2
1984	86.3	78.0	91.7	96.1
1985	87.4	81.5	89.8	95.1
1986	91.2	89.2	90.5	94.4
1987	100.0	100.0	100.0	100.0
1988	105.8	108.4	107.4	101.4
1989	109.7	114.6	111.3	102.5
1990	113.6	118.5	114.9	106.6
1991	117.3	127.4	116.3	105.9
Average annual percent change:				
1958-91	3.9	5.8	3.1	1.2
1973-91	3.4	5.8	2.1	.9

<sup>1</sup> The output measures underlying the productivity indexes relate to the total net production of the industry. They do not relate to the specific output of any single factor of production.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Interstate Commerce Commission, the Association of American Railroads, and the National Railroad Passenger Corporation. Hours based on data from the Interstate Commerce Commission. Capital based on data from the

Interstate Commerce Commission; the National Railroad Passenger Corporation; the Internal Revenue Service, U.S. Department of the Treasury; Moody's Investor's Service; the Bureau of Economic Analysis, U.S. Department of Commerce; and the Bureau of Labor Statistics. Intermediate purchases based on data from the Interstate Commerce Commission, the Association of American Railroads, the National Railroad Passenger Corporation, the Edison Electric Institute, and the Bureau of Labor Statistics.

**Table 194. Railroad transportation (SIC 4011): Output and input indexes, 1967-91**  
(1967 = 100)

Year	Output	Combined inputs	Hours	Capital	Intermediate purchases
Index:					
1967	87.6	172.5	251.8	137.2	108.2
1968	90.5	169.4	247.5	135.0	105.7
1969	91.7	168.0	241.7	132.8	109.2
1970	88.3	168.8	244.2	130.8	110.7
1971	86.8	161.0	225.0	128.6	110.2
1972	91.0	155.6	216.1	126.2	106.5
1973	99.6	155.3	214.0	123.9	109.5
1974	97.8	154.8	214.8	121.8	108.7
1975	84.9	143.9	195.9	119.9	101.0
1976	91.4	146.0	194.9	118.1	107.8
1977	96.4	147.7	196.2	116.7	111.1
1978	98.6	146.5	191.2	115.6	113.7
1979	101.1	146.8	186.3	114.7	119.5
1980	97.3	143.3	178.3	114.3	118.8
1981	95.1	140.4	172.5	113.5	117.4
1982	83.8	122.1	143.8	111.7	102.4
1983	89.2	111.2	123.9	108.8	96.7
1984	97.3	112.7	124.7	106.1	101.3
1985	93.7	107.2	115.0	104.4	98.5
1986	92.9	101.9	104.1	102.7	98.4
1987	100.0	100.0	100.0	100.0	100.0
1988	105.0	99.2	96.9	97.8	103.6
1989	106.6	97.2	93.0	95.8	104.0
1990	107.8	94.9	91.0	93.8	101.1
1991	107.0	91.2	84.0	92.0	101.0
Average annual percent change:					
1958-91	1.3	-2.5	-4.3	-1.8	.1
1973-91	.4	-2.9	-5.1	-1.6	-.4

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Interstate Commerce Commission, the Association of American Railroads, and the National Railroad Passenger Corporation. Hours based on data from the Interstate Commerce Commission. Capital based on data from the Interstate Commerce Commission; the National Railroad Passenger

Corporation; the Internal Revenue Service, U.S. Department of the Treasury; Moody's Investor's Service; the Bureau of Economic Analysis, U.S. Department of Commerce; and the Bureau of Labor Statistics. Intermediate purchases based on data from the Interstate Commerce Commission, the Association of American Railroads, the National Railroad Passenger Corporation, the Edison Electric Institute, and the Bureau of Labor Statistics.

# Part III. Labor Productivity Trends for Selected Government Functions and Services

## Federal Government

### Current developments

Output per employee year increased 0.7 percent in fiscal year 1992 in the measured portion of the Federal Government. This reflects an increase of 1.2 percent in output and an increase of 0.5 percent in employee years. Increases in productivity of 0.9 percent were recorded in both the Department of Defense and the U.S. Postal Service. In the rest of government, increases averaged 0.5 percent.

The overall productivity measure includes data from 276 organizations in 60 Federal agencies in fiscal year 1992. The organizations included 1.9 million civilian employee years representing 64 percent of the total Federal executive branch civilian labor force.

To better identify and understand the factors which affect Federal productivity, the 276 Federal organizations are grouped into 28 functions based on similarity of tasks performed, for example, auditing, medical, personnel, or transportation. This year two of the functions were not extended to 1992 due to insufficient data; these are equipment maintenance and traffic management. Of the remaining 26 functions the change in output per employee year ranged from an increase of 45.3 percent in communications to a decrease of 9.7 percent in audit of operations in 1992. Productivity increased in 15 functions and decreased in 11.

The communications function has shown large productivity increases over the past 19 years with the exception of 1989 and 1990. In 1992, this function experienced an exceptionally large increase in productivity due to an increase in output of 36.8 percent and a decrease in input of 5.9 percent. The communications function includes organizations responsible for processing messages and performing telecommunications service for Federal organizations. The sharp growth in output with the accompanying decrease in employee years reflects technological improvements in the transmission of messages.

Library services had the second largest increase in productivity in 1992. Productivity increased 14.3 percent due to an increase in output of 4.2 percent and a decrease in employee years of 8.8 percent. Organizations classified into this function are responsible for providing research and reference service to Federal agencies, Congress, or the public.

The relatively high productivity growth in the function reflects the application of automated systems for data retrieval such as cataloging, circulation, distribution, and inventory control and some reductions in staff.

The 1992 decrease in productivity of 9.7 percent in audit of operations reflects a drop in output of 15.6 percent and a decline in employee years of 6.5 percent. (Employee years have been declining for the past 2 years in this function.) Organizations in this function are responsible for reviewing, evaluating, and analyzing Federal programs and operations. The unusual decrease in output in 1992 represents a sudden downturn in the number of audits after many years of increases.

The U.S. Postal Service is the largest of the 28 functions in terms of employees. Productivity increased 0.9 percent as a result of an increase in output of 0.4 percent, while tighter controls on the use of overtime led to a decrease of 0.5 percent in labor input. By comparison, like other parts of government, Postal Service productivity decreased (by 0.4 percent) in 1991.

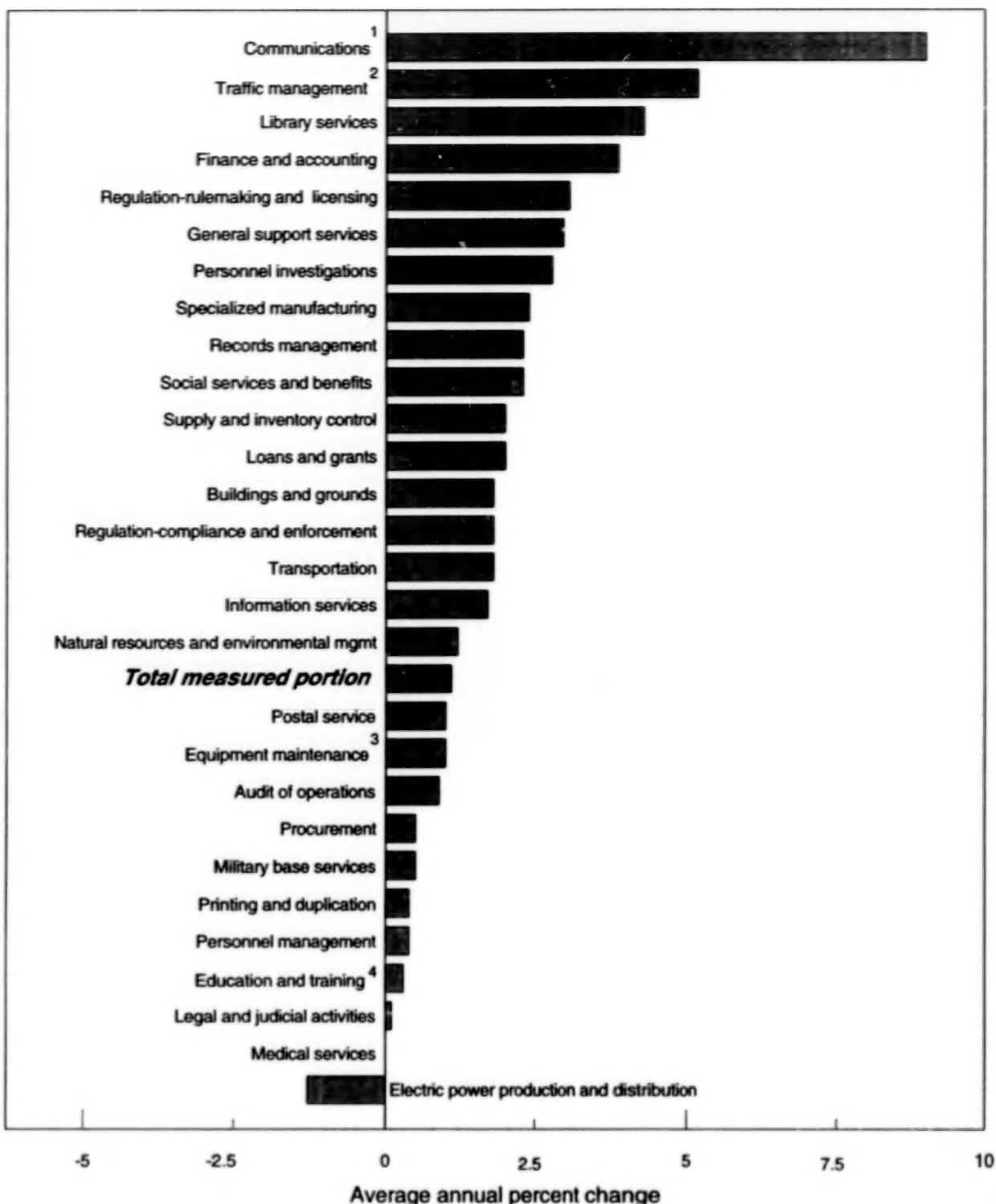
### Recent trends

During the period 1987-92, productivity rose at an average annual rate of 0.2 percent for the total measured portion of the Federal Government. Output increased annually at a rate of 0.5 percent while labor input increased 0.4 percent annually. Communications led the gain with an average annual increase of 7.9 percent, resulting from an annual increase in output of 14.6 percent and an annual increase in labor input of 6.2 percent. Procurement experienced the greatest decline in productivity with an average annual decline of 3.5 percent due to a decrease in output of 2.5 percent and an increase in employee years of 1.1 percent. Eleven functions experienced declines in productivity during this period.

### Long-term trends

Over the long term, 1967-92, productivity in the measured portion of the Federal Government rose at an average annual rate of 1.1 percent. This overall increase reflects an average annual increase in output of 1.5 percent and an annual increase in employee years of 0.4 percent. The year-to-year productivity changes range from a high of 2.9 per-

**Chart 9. Output per employee year in the Federal Government by function and the total measured portion, fiscal years 1967-92**



1 Measure begins in 1973.

2 Period covered 1972-91.

3 Period covered 1968-91.

4 Measure begins in 1968.

Note: Average annual percent change using compound rate formula.



cent in 1977 to a decrease of 2.8 percent in 1991. Year-to-year changes in output ranged from an increase of 3.7 percent in 1968 to a decline of 1.9 percent in 1991, the only year experiencing a decrease in output. Annual rates of change in employee years ranged from an increase of 2.6 percent in 1968 to a drop of 1.2 percent in 1973.

An examination of the long-term trends for the 26 functions shows that the average annual change in productivity ranged from 9.0 percent for communications for the years 1973-92 and 4.3 percent for library services for the years 1967-92 to a decline of 1.3 percent in electric power production and distribution during 1967-92. Electric power is the only function experiencing a decline over the long term. Sixteen of the functions showed productivity increases above the overall average of 1.1 percent.

The long-term gains in productivity in the communications function are the result of strong average annual output growth of 10.8 percent and small annual increases in employee years of 1.6 percent. Over the 19-year period productivity has decreased twice, 1989 and 1990, output has declined twice, 1982 and 1990, while labor input has decreased seven times. The exceptional increases in productivity are primarily due to the adoption of technologically improved equipment that receives and transmits messages instantaneously all over the world.

The second largest long-term productivity increase (4.3 percent), which was experienced in the library services function, reflected an average annual increase in output of 5.4 percent and an annual increase in employee years of 1.1 percent. Automation in the libraries has resulted in continuous output growth since 1983 and gradual decreases in employee years as shown by declines in 7 of the past 10 years.

Electric power production and distribution registered the only long-term decrease in productivity (1.3 percent for 1967-92). Organizations in this function are responsible for generating, transmitting, or selling electricity. Dry weather conditions for extended periods affecting the production of power in hydroelectric plants, and the regulatory problems associated with delays in nuclear power production have contributed to the declines over the years. Although employment in electric power has been cut back in most years since 1982, the decreases in output have exceeded the cuts in labor input by a wide margin. More recently, improved weather conditions and the reopening of several nuclear power units have contributed to increases in power production from 1989 through 1991.

#### **Compensation per employee year and unit labor costs**

Overall compensation per employee year rose 6.4 percent in 1992. Compensation includes employee benefits as well as salaries and wages. The library service function exhibited the largest increase, 18.3 percent, whereas supply and inventory control experienced the lowest increase, 0.2

percent. The supply function is comprised of many DOD civilian support organizations which experienced a change in the mix of occupations which lowered the average compensation increases through the elimination of many administrative positions.

Over the long-term, 1967-92, the average annual increase in compensation per employee year rose 7.0 percent for the Federal Government. The average annual increases among the functions were relatively close, ranging from a high of 7.5 percent for the Postal Service, to a low of 5.1 percent for procurement.

In the total measured portion of the Federal Government unit labor costs increased 5.7 percent in 1992. The rates among the functions ranged from 15.4 percent for audits of operation which exhibited the largest increase, whereas communications experienced a decrease of 25.1 percent. Twenty-one functions showed increases in unit labor costs while 4 showed declines, and 1 function remained unchanged.

Over the 1967-92 period, unit labor costs increased at an average annual rate of 5.8 percent. Electric power experienced the largest average increase of 8.0 percent. Communications was the only function to show an average annual decrease in unit labor costs; costs decreased at a 1.5-percent average rate.

## **State and Local Government**

### **Electric services (SIC 4911)**

Productivity (as measured by output per employee year) in State and local government electric power services decreased 2.4 percent in 1992 as output increased 0.1 percent and input increased 2.5 percent. The drop in productivity and the small increase in output is atypical of this service. The long-term productivity trend (1967-92) shows an average annual increase of 1.9 percent, with output and employment increasing at rates of 3.4 and 1.5 percent, respectively.

### **State sales of alcoholic beverages (SIC 5182 part and 5921 part)**

Productivity in State sales of alcoholic beverages increased 2.5 percent in 1992 as output and input declined 0.4 and 2.8 percent, respectively. These changes are a continuation of the medium and long-term trends. The long-term productivity trend (1967-92) shows an average annual increase of 1.1 percent as output and employment decreased 0.1 and 1.2 percent, respectively. The drop in output and employment reflects decreasing demand for spirits and a shift in several States from government to private sector operations.

### **Unemployment insurance (SIC 9441 part)**

Productivity in State unemployment insurance activities increased 3.8 percent in fiscal 1992 as output increased 18.2

percent while labor input increased 14.0 percent. These statistics reflect continued increases in workload at State unemployment insurance offices during this period; initial claims, weeks compensated and firms taxed to support the

program all increased. Over the long term (1964-92), productivity increased at an average annual rate of 1.2 percent, with output increasing at an average annual rate of 2.5 percent and labor increasing at 1.3 percent.

## Definitions of functional categories

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*Audit of operations:* Organizations responsible for reviewing, evaluating, and analyzing Federal programs and operations.

*Buildings and grounds:* Organizations responsible for the construction, maintenance, repair, alteration, services, and security of Federal buildings, installations, or grounds.

*Communications:* Organizations responsible for processing messages and performing telecommunications services.

*Education and training:* Organizations responsible for providing general or specialized education or training.

*Electric power production and distribution:* Organizations responsible for generating, transmitting, or selling electricity.

*Equipment maintenance:* Organizations responsible for the maintenance and repair of motor vehicles and equipment and the calibration of instruments.

*Finance and accounting:* Organizations responsible for maintaining accounting records, processing payroll vouchers and invoices, and related activities.

*General support services:* Organizations performing overall administrative and supportive activities including automatic data processing, internal mail delivery, graphics, and planning.

*Information services:* Organizations responsible for preparing or distributing statistical, scientific, technical, or other information.

*Legal and judicial activities:* Organizations responsible for instituting proceedings in a court or administrative tribunal or rendering decisions in a judicial capacity.

*Library services:* Organizations responsible for providing research and reference services for Federal agencies, Congress, or the public.

*Loans and grants:* Organizations responsible for issuing research grants, making awards, offering various types of loans, and borrowing funds from the public.

*Medical services:* Organizations responsible for operating health care facilities and providing medical, hospital, dental, laboratory, or nursing service for disease prevention or treatment.

*Military base services:* Military organizations responsible for providing commissary, laundry, dry cleaning, or food services.

*Natural resources and environmental management:* Organizations re-

sponsible for developing or overseeing programs which affect natural resources or the environment.

*Personnel investigations:* Organizations responsible for conducting personnel security checks or criminal investigations of Federal employees.

*Personnel management:* Organizations responsible for providing personnel services including recruitment, position classification, employee development, and equal employment opportunity counseling.

*Postal service:* U.S. Postal Service which delivers mail and provides related services(SIC 4311).

*Printing and duplication:* Organizations responsible for printing or reproducing reports, manuals, circulars, or other documents.

*Procurement:* Organizations responsible for purchasing supplies, equipment, or services.

*Records management:* Organizations responsible for maintaining, classifying, storing, or searching records.

*Regulation—compliance and enforcement:* Organizations engaged in activities to ensure compliance with established rules and regulations.

*Regulation—rulemaking and licensing:* Organizations responsible for issuing licenses, permits, or other authorizations in government-controlled activities.

*Social services and benefits:* Organizations responsible for the payment of benefits or claims, or for improving the welfare of the public or a special group.

*Specialized manufacturing:* Organizations involved in the production of physical outputs such as helium, munitions, chemicals, and currency.

*Supply and inventory control:* Organizations responsible for distributing supplies and equipment and for the management of inventories.

*Traffic management:* Organizations responsible for arranging for the movement of people or cargo.

*Transportation:* Organizations responsible for moving or assisting in the movement of people or cargo.



**Table 195. Federal Government-Total measured portion: Indexes of output per employee year and related data, 1967-92**  
(1967 = 100)

Fiscal year	Output per employee year	Output	Employee years	Compensation per employee year	Unit labor cost
Index:					
1967	76.6	71.1	92.9	24.8	32.3
1968	77.4	73.8	95.3	26.0	33.6
1969	79.3	76.2	96.1	28.0	35.3
1970	79.6	76.4	95.9	31.1	39.1
1971	80.9	77.4	95.6	34.7	42.9
1972	81.4	77.6	95.2	37.3	45.7
1973	83.7	78.8	94.1	39.5	47.2
1974	83.3	78.9	94.8	42.7	51.3
1975	84.5	80.2	94.9	46.9	55.4
1976	86.0	80.9	94.0	51.8	60.3
1977	88.5	82.3	93.0	56.4	63.8
1978	90.0	84.2	93.6	60.3	67.0
1979	90.6	84.8	93.7	64.2	70.9
1980	92.5	87.3	94.4	69.5	75.1
1981	94.7	88.6	93.5	76.1	80.4
1982	96.1	89.6	93.3	81.1	84.4
1983	97.5	91.9	94.2	85.0	87.1
1984	97.5	93.9	96.2	88.9	91.1
1985	98.2	96.3	98.1	93.5	95.2
1986	99.8	98.6	98.8	96.3	96.5
1987	100.0	100.0	100.0	100.0	100.0
1988	100.8	101.0	100.3	106.3	105.5
1989	100.7	101.2	100.4	111.3	110.5
1990	102.9	103.5	100.6	117.8	114.4
1991	100.1	101.5	101.5	125.0	124.9
1992	100.8	102.8	101.9	133.0	132.0
Average annual percent change:					
1967-92	1.1	1.5	.4	7.0	5.8
1987-92	.2	.5	.4	5.9	5.7

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

**Table 196. Federal Government-Audit of operations: Indexes of output per employee year and related data, 1967-92**  
(1967 = 100)

Fiscal year	Output per employee year	Output	Employee years	Compensation per employee year	Unit labor cost
Index:					
1967	92.8	129.1	139.1	25.9	27.9
1968	96.1	141.6	144.4	27.5	28.0
1969	106.6	146.9	137.8	29.4	27.6
1970	106.9	137.2	128.3	34.1	31.9
1971	93.5	110.1	117.7	37.1	39.7
1972	98.7	107.8	109.3	40.1	40.6
1973	105.6	113.7	107.7	41.4	39.2
1974	112.2	121.6	108.4	43.7	38.9
1975	117.4	129.9	110.8	45.2	38.5
1976	114.9	120.2	104.6	49.3	42.9
1977	118.4	113.9	96.2	53.0	44.8
1978	121.5	119.5	98.3	57.5	47.4
1979	119.3	116.3	97.4	61.2	51.2
1980	115.6	115.5	100.0	62.1	53.8
1981	114.8	117.3	102.1	66.9	56.2
1982	110.4	112.0	101.4	79.2	71.7
1983	112.8	116.2	103.0	84.6	75.0
1984	115.9	120.0	103.5	86.1	76.0
1985	119.1	123.5	103.7	91.4	76.7
1986	110.9	115.5	104.1	94.8	85.5
1987	100.0	100.0	100.0	100.0	100.0
1988	101.4	106.8	105.3	105.8	104.4
1989	106.6	115.8	106.6	100.4	94.1
1990	117.2	129.0	110.1	106.5	90.9
1991	129.4	133.2	102.9	110.5	85.4
1992	116.9	112.5	96.2	115.2	98.5
Average annual percent change:					
1967-92	.9	-.6	-1.5	6.2	5.2
1987-92	3.2	2.4	-.8	2.9	-.3

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

**Table 197. Federal Government-Buildings and grounds: Indexes of output per employee year and related data, 1967-92**  
(1967 = 100)

Fiscal year	Output per employee year	Output	Employee years	Compensation per employee year	Unit labor cost
<b>Index:</b>					
1967	65.1	89.3	137.1	30.7	47.2
1968	64.1	88.6	136.1	31.9	49.8
1969	64.6	86.5	133.8	35.3	54.7
1970	63.4	84.2	132.9	39.7	62.7
1971	62.6	85.4	136.4	43.2	69.0
1972	64.9	86.4	133.3	48.4	74.6
1973	63.2	80.1	126.8	52.2	82.7
1974	66.4	82.1	123.6	57.8	87.0
1975	75.3	94.5	125.5	61.5	81.7
1976	77.3	93.8	121.3	68.3	88.4
1977	82.1	91.4	111.4	76.7	93.4
1978	84.2	93.8	111.4	78.9	93.7
1979	89.4	97.5	109.1	84.9	94.9
1980	90.1	100.0	111.0	86.4	96.0
1981	100.2	106.1	105.8	96.5	96.3
1982	104.2	105.4	101.1	100.0	95.9
1983	105.0	104.6	99.6	95.7	91.1
1984	107.0	106.4	99.4	97.4	91.0
1985	105.7	106.1	100.3	99.4	94.0
1986	100.5	101.4	100.8	102.0	101.5
1987	100.0	100.0	100.0	100.0	100.0
1988	96.1	95.6	96.5	102.7	107.9
1989	97.8	102.1	104.3	107.4	109.8
1990	100.4	99.0	98.6	113.6	113.2
1991	99.1	96.5	97.3	123.2	124.3
1992	101.7	106.6	104.9	129.3	127.1
<b>Average annual percent change:</b>					
1967-92	1.8	.7	-1.1	5.9	4.0
1987-92	.3	1.3	1.0	7.3	4.9

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

**Table 198. Federal Government-Communications: Indexes of output per employee year and related data, 1973-92**  
(1987 = 100)

Fiscal year	Output per employee year	Output	Employee years	Compensation per employee year	Unit labor cost
<b>Index:</b>					
1973	28.3	28.0	99.2	40.4	142.8
1974	30.2	31.4	104.1	43.3	143.6
1975	33.3	33.8	101.4	47.3	141.9
1976	35.6	36.5	102.6	50.8	142.7
1977	40.4	40.8	100.9	52.8	130.7
1978	44.9	45.4	101.1	56.6	126.1
1979	45.6	46.3	101.5	60.5	132.8
1980	58.6	58.2	99.3	62.7	107.0
1981	72.1	68.2	94.6	72.0	99.9
1982	74.1	68.0	91.8	82.2	111.0
1983	79.3	75.6	95.4	82.6	104.2
1984	86.4	85.2	98.7	85.9	99.4
1985	91.4	91.3	99.9	90.2	96.7
1986	95.4	94.8	99.4	97.4	102.1
1987	100.0	100.0	100.0	100.0	100.0
1988	104.7	105.8	101.1	105.7	101.0
1989	101.0	111.9	110.8	130.9	129.6
1990	78.6	110.6	140.7	133.1	169.5
1991	100.5	144.3	143.6	144.5	143.9
1992	146.0	197.4	135.2	157.4	107.8
<b>Average annual percent change:</b>					
1973-92	9.0	10.8	1.6	7.4	-1.5
1987-92	7.9	14.6	6.2	9.5	1.5

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

**Table 199. Federal Government-Education and training: Indexes of output per employee year and related data, 1968-92**  
(1967 = 100)

Fiscal year	Output per employee year	Output	Employee years	Compensation per employee year	Unit labor cost
Index:					
1968	84.9	88.2	104.0	27.8	32.8
1969	84.9	96.6	113.7	30.1	35.5
1970	77.3	97.5	126.8	32.1	41.4
1971	77.9	97.9	125.7	35.1	45.1
1972	80.5	101.3	125.8	40.5	50.3
1973	78.7	98.1	124.7	41.8	53.1
1974	77.5	90.0	116.2	45.4	58.6
1975	75.1	85.4	113.8	48.4	64.5
1976	82.1	83.8	102.1	51.8	62.9
1977	92.7	89.6	96.6	56.7	61.2
1978	91.5	85.4	93.3	58.7	64.2
1979	97.2	85.5	88.0	61.7	63.5
1980	97.8	88.8	90.8	67.1	66.7
1981	107.4	90.1	83.9	75.3	70.1
1982	103.7	95.4	92.0	80.5	77.8
1983	101.3	94.0	92.8	85.1	84.0
1984	100.3	95.3	95.0	89.2	89.0
1985	100.7	97.6	97.0	93.2	92.6
1986	101.3	99.4	98.1	98.4	97.2
1987	100.0	100.0	100.0	100.0	100.0
1988	102.6	96.0	93.6	103.0	100.4
1989	101.6	93.0	91.6	105.8	104.2
1990	107.9	95.8	88.6	110.9	102.7
1991	93.3	78.8	84.5	115.1	123.4
1992	90.3	75.3	83.4	119.6	132.4
Average annual percent change:					
1968-92	.3	-.7	-.9	6.3	6.0
1987-92	-2.0	-7.5	-3.6	3.6	5.8

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

**Table 200. Federal Government-Electric power production and distribution: Indexes of output per employee year and related data, 1967-92**  
(1967 = 100)

Fiscal year	Output per employee year	Output	Employee years	Compensation per employee year	Unit labor cost
Index:					
1967	196.4	101.9	51.9	26.5	13.5
1968	214.3	129.6	60.5	28.2	13.1
1969	233.0	146.2	62.8	30.5	13.1
1970	251.2	169.3	67.4	32.8	13.0
1971	242.9	192.3	79.2	36.3	14.9
1972	257.9	217.8	84.4	39.2	15.2
1973	254.5	199.8	78.5	41.4	16.3
1974	249.4	196.1	78.6	43.6	17.5
1975	244.5	209.8	85.8	46.9	19.2
1976	235.2	228.2	97.0	54.0	22.9
1977	226.0	262.0	116.0	57.7	25.5
1978	231.0	323.3	129.9	62.1	26.9
1979	204.9	323.5	157.9	66.7	32.5
1980	208.4	334.6	160.6	69.6	33.4
1981	193.4	310.3	160.4	69.6	35.9
1982	142.0	201.3	141.8	70.1	49.3
1983	176.1	218.4	124.0	76.6	43.5
1984	151.8	172.6	113.7	81.9	53.9
1985	132.3	147.9	111.8	84.7	64.0
1986	123.1	118.4	96.2	95.0	77.1
1987	100.0	100.0	100.0	100.0	100.0
1988	91.1	98.9	108.6	101.4	111.3
1989	125.4	113.9	90.8	107.1	111.3
1990	132.8	118.2	89.0	111.3	83.8
1991	138.4	120.3	86.9	122.0	86.2
1992	142.7	115.2	80.7	132.8	93.1
Average annual percent change:					
1967-92	-1.3	.5	1.8	6.7	8.0
1987-92	7.4	2.9	-4.2	5.8	-1.4

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

**Table 201. Federal Government-Equipment maintenance: Indexes of output per employee year and related data, 1968-91**  
(1967 = 100)

Fiscal year	Output per employee year	Output	Employee years	Compensation per employee year	Unit labor cost
Index:					
1968	80.0	122.7	153.3	25.5	31.9
1969	83.4	127.7	153.0	30.2	36.2
1970	82.0	111.1	135.4	32.8	40.0
1971	88.1	106.6	121.0	36.6	41.5
1972	87.1	107.8	123.7	36.9	42.3
1973	82.5	99.6	120.7	38.9	47.1
1974	84.5	96.6	114.4	42.1	49.9
1975	84.8	96.8	114.2	46.0	54.2
1976	85.2	93.8	110.0	50.0	58.7
1977	83.9	89.9	107.1	53.5	63.8
1978	87.3	93.6	107.2	58.5	67.0
1979	88.2	92.6	105.0	60.9	69.1
1980	89.2	89.3	100.2	67.6	75.8
1981	92.5	93.4	101.0	76.6	82.9
1982	92.7	94.0	101.4	79.2	85.4
1983	92.7	95.3	102.8	83.8	90.4
1984	96.9	99.9	103.1	90.3	93.2
1985	98.2	101.8	103.6	93.6	95.2
1986	100.2	103.9	103.7	97.1	97.0
1987	100.0	100.0	100.0	100.0	100.0
1988	104.5	96.0	91.9	104.1	99.6
1989	103.7	93.9	95.4	107.3	103.5
1990	107.8	101.1	93.6	111.8	103.7
1991	101.6	90.4	88.9	116.0	114.1
Average annual percent change:					
1968-91	1.0	-1.3	-2.3	6.8	5.7
1987-91	.4	-2.5	-2.9	3.8	3.4

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

**Table 202. Federal Government-Finance and accounting: Indexes of output per employee year and related data, 1967-92**  
(1967 = 100)

Fiscal year	Output per employee year	Output	Employee years	Compensation per employee year	Unit labor cost
Index:					
1967	45.0	58.6	130.8	27.0	60.1
1968	46.1	60.8	131.8	28.6	61.9
1969	46.6	62.7	134.5	29.9	64.1
1970	48.1	62.7	130.4	33.8	70.4
1971	48.8	62.6	128.4	36.5	74.9
1972	48.0	62.1	129.4	39.1	81.6
1973	47.4	60.7	128.0	41.2	86.9
1974	49.0	59.4	121.2	44.9	91.5
1975	53.2	61.2	115.1	48.5	91.2
1976	56.7	63.1	111.2	52.3	92.3
1977	57.4	63.2	110.0	55.2	96.0
1978	59.2	62.1	104.9	60.4	102.0
1979	61.8	63.5	102.8	64.8	104.8
1980	69.7	73.5	105.5	70.0	100.5
1981	73.4	76.7	104.5	75.0	102.1
1982	86.6	83.5	96.5	79.9	92.2
1983	95.8	90.2	94.1	85.1	88.8
1984	94.0	91.9	97.8	90.6	96.4
1985	93.7	93.7	99.9	94.3	100.6
1986	97.0	96.4	101.4	95.5	98.5
1987	100.0	100.0	100.0	100.0	100.0
1988	102.4	99.2	96.9	104.0	101.6
1989	102.4	99.1	96.7	108.5	106.0
1990	104.7	103.3	98.6	105.6	100.0
1991	110.6	105.0	94.9	120.0	108.4
1992	116.5	107.8	92.5	129.8	111.4
Average annual percent change:					
1967-92	3.9	2.5	-1.4	6.5	2.5
1987-92	3.1	1.5	-1.5	5.4	2.2

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

**Table 203. Federal Government-General support services: Indexes of output per employee year and related data, 1967-92**  
(1967 = 100)

Fiscal year	Output per employee year	Output	Employee years	Compensation per employee year	Unit labor cost
Index:					
1967	45.4	30.6	67.3	32.0	70.5
1968	49.9	34.5	69.2	33.0	66.3
1969	50.3	35.9	71.4	35.3	70.1
1970	56.0	39.3	76.1	39.2	70.1
1971	58.0	42.4	73.1	41.1	70.8
1972	65.5	46.5	71.0	46.7	71.3
1973	68.4	48.8	71.3	49.0	71.6
1974	70.3	52.1	74.1	56.5	80.4
1975	63.3	51.1	80.7	58.4	89.0
1976	65.4	52.9	80.9	58.1	88.9
1977	68.4	57.6	82.9	63.9	92.0
1978	71.9	63.2	87.9	63.6	88.4
1979	76.3	63.7	83.4	66.6	87.3
1980	79.3	67.8	85.5	70.8	89.3
1981	89.8	73.2	81.5	79.1	88.1
1982	112.4	93.8	83.5	85.6	76.2
1983	109.8	93.9	85.6	89.9	81.9
1984	103.1	96.3	93.4	94.0	91.1
1985	94.5	96.8	102.5	97.5	103.2
1986	99.0	100.1	101.1	102.4	103.3
1987	100.0	100.0	100.0	100.0	100.0
1988	94.0	101.8	106.3	103.3	109.9
1989	102.6	114.8	111.9	103.5	100.8
1990	98.1	118.4	120.6	105.9	107.9
1991	96.7	111.4	115.2	113.4	117.3
1992	94.1	113.2	120.3	125.8	133.8
Average annual percent change:					
1967-92	3.0	5.4	2.4	5.6	2.6
1987-92	-1.2	2.5	3.8	4.7	6.0

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

**Table 204. Federal Government-Information services: Indexes of output per employee year and related data, 1967-92**  
(1967 = 100)

Fiscal year	Output per employee year	Output	Employee years	Compensation per employee year	Unit labor cost
Index:					
1967	73.4	72.3	98.6	32.3	44.0
1968	75.4	75.2	99.8	34.0	45.1
1969	77.6	78.0	100.3	35.6	45.8
1970	76.5	77.6	101.5	40.7	53.2
1971	78.8	80.4	104.6	42.8	55.7
1972	78.7	82.9	105.4	45.1	57.4
1973	73.2	83.5	114.0	44.8	61.1
1974	75.4	85.3	113.1	48.0	63.6
1975	79.3	89.6	113.0	50.4	65.6
1976	77.4	88.7	114.6	53.3	68.9
1977	76.7	86.5	112.8	56.9	74.1
1978	77.8	85.1	109.4	61.9	79.5
1979	79.5	86.6	109.0	65.0	81.7
1980	79.5	87.1	109.6	70.4	86.5
1981	80.1	89.3	111.6	76.3	95.2
1982	81.9	86.7	105.9	80.6	98.4
1983	87.5	90.2	103.0	84.7	96.8
1984	91.1	92.7	101.7	90.0	98.7
1985	96.0	98.4	102.5	94.2	98.1
1986	97.1	98.8	101.7	96.9	99.8
1987	100.0	100.0	100.0	100.0	100.0
1988	99.5	99.5	99.9	106.5	107.0
1989	103.8	103.1	99.3	111.1	107.0
1990	106.7	105.1	98.5	115.5	108.2
1991	112.0	110.9	99.0	121.7	108.7
1992	111.5	112.8	101.1	127.6	114.4
Average annual percent change:					
1967-92	1.7	1.8	.1	5.6	3.9
1987-92	2.2	2.4	.2	5.0	2.7

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

**Table 205. Federal Government—Legal and judicial activities: Indexes of output per employee year and related data, 1967–92**  
(1967 = 100)

Fiscal year	Output per employee year	Output	Employee years	Compensation per employee year	Unit labor cost
<b>Index:</b>					
1967	88.7	46.4	52.3	30.4	34.2
1968	88.0	47.4	53.9	31.5	35.9
1969	90.0	47.6	52.9	35.0	38.8
1970	94.5	49.7	52.5	39.8	42.1
1971	101.2	53.6	52.9	43.1	42.6
1972	123.0	57.2	55.5	44.8	43.5
1973	100.3	58.8	58.6	45.6	45.4
1974	92.6	58.2	62.9	46.4	50.2
1975	83.6	62.6	66.9	46.9	50.2
1976	91.8	66.7	72.6	48.9	53.3
1977	88.0	67.0	76.2	54.2	61.6
1978	86.0	67.8	79.9	59.1	68.7
1979	89.8	71.3	79.4	62.3	69.4
1980	89.3	76.5	85.7	67.3	75.4
1981	91.8	80.1	87.3	72.9	79.4
1982	95.8	83.2	86.9	80.5	84.0
1983	98.3	88.1	89.6	84.2	85.7
1984	96.6	90.1	93.0	88.8	91.7
1985	99.4	95.7	96.3	92.2	92.7
1986	99.8	97.5	97.6	95.8	96.0
1987	100.0	100.0	100.0	100.0	100.0
1988	100.7	107.0	106.2	103.5	102.8
1989	99.6	108.1	108.5	109.5	109.9
1990	96.0	109.4	114.0	114.9	119.7
1991	92.6	113.5	122.8	125.3	135.2
1992	91.9	123.9	134.7	136.2	146.1
<b>Average annual percent change:</b>					
1967–92	.1	4.0	3.9	6.2	6.0
1987–92	-1.7	4.4	6.1	6.4	8.2

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

**Table 206. Federal Government—Library services: Indexes of output per employee year and related data, 1967–92**  
(1967 = 100)

Fiscal year	Output per employee year	Output	Employee years	Compensation per employee year	Unit labor cost
<b>Index:</b>					
1967	43.9	31.0	70.6	24.9	56.7
1968	46.1	37.6	81.4	25.7	55.7
1969	49.8	40.2	80.8	29.1	58.4
1970	50.1	40.4	80.7	32.9	65.8
1971	50.9	41.6	81.7	35.6	70.0
1972	51.2	43.1	84.2	38.9	75.9
1973	53.9	47.8	88.7	40.5	75.1
1974	57.8	52.5	90.8	43.9	75.9
1975	64.9	60.5	93.3	46.6	71.8
1976	72.1	69.4	96.3	49.4	68.6
1977	77.7	79.1	101.8	55.2	71.0
1978	74.9	78.8	105.2	61.3	81.7
1979	78.0	83.7	107.3	63.1	80.9
1980	82.7	88.0	106.4	70.0	84.6
1981	86.6	90.2	104.1	77.1	89.0
1982	83.3	88.6	106.4	79.9	96.0
1983	85.8	90.2	105.4	86.8	101.5
1984	82.1	94.3	102.3	89.9	97.5
1985	84.9	96.2	102.4	96.5	102.8
1986	101.7	98.6	97.0	100.3	98.6
1987	100.0	100.0	100.0	100.0	100.0
1988	104.3	102.2	98.0	107.1	102.7
1989	107.5	103.9	96.7	111.6	103.9
1990	116.5	109.8	94.3	120.2	103.2
1991	109.9	111.4	101.4	121.0	110.1
1992	125.5	116.1	92.5	143.1	114.0
<b>Average annual percent change:</b>					
1967–92	4.3	5.4	1.1	7.2	2.8
1987–92	4.7	3.0	-1.6	7.4	2.6

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.



**Table 207. Federal Government-Loans and grants: Indexes of output per employee year and related data, 1967-92**  
(1967 = 100)

Fiscal year	Output per employee year	Output	Employee years	Compensation per employee year	Unit labor cost
<b>Index:</b>					
1967	56.2	55.8	99.3	26.4	47.0
1968	59.4	60.5	102.0	26.2	47.5
1969	61.9	62.2	100.5	30.5	49.3
1970	62.7	71.0	103.3	34.7	50.6
1971	76.1	84.2	110.6	37.4	49.2
1972	75.2	86.4	114.9	39.4	52.4
1973	76.2	86.2	113.2	41.9	55.1
1974	77.6	81.0	104.5	46.3	59.8
1975	80.7	83.2	103.0	49.2	60.9
1976	84.9	89.0	104.8	52.4	61.7
1977	88.6	97.5	109.9	57.1	64.4
1978	87.8	102.9	117.2	58.6	67.9
1979	95.4	114.2	119.7	61.3	64.3
1980	93.1	112.3	120.4	67.8	72.8
1981	97.8	114.0	118.6	76.8	78.5
1982	92.8	96.6	104.1	83.0	89.4
1983	104.0	107.8	103.6	87.1	83.8
1984	99.4	105.4	106.0	89.1	89.7
1985	106.5	111.3	102.5	94.2	86.9
1986	108.8	109.6	100.8	96.0	88.2
1987	100.0	100.0	100.0	100.0	100.0
1988	94.2	94.5	105.2	105.4	111.9
1989	90.4	90.0	99.6	111.6	123.5
1990	101.1	103.4	102.3	119.1	117.8
1991	89.2	90.6	101.5	126.8	142.2
1992	92.4	100.2	108.4	136.5	147.7
<b>Average annual percent change:</b>					
1967-92	2.0	2.4	.4	6.8	4.7
1987-92	-1.6	.5	1.6	6.4	8.1

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

**Table 208. Federal Government-Medical services: Indexes of output per employee year and related data, 1967-92**  
(1967 = 100)

Fiscal year	Output per employee year	Output	Employee years	Compensation per employee year	Unit labor cost
<b>Index:</b>					
1967	92.7	67.2	72.4	25.5	27.5
1968	94.5	70.4	74.5	26.8	28.3
1969	94.8	71.2	75.1	28.0	29.6
1970	94.0	70.9	74.7	31.9	33.9
1971	93.4	70.4	75.4	34.8	37.2
1972	88.5	69.5	78.6	38.0	43.0
1973	91.3	75.1	82.2	42.3	44.1
1974	91.1	75.8	83.2	43.0	47.2
1975	92.8	78.4	84.4	48.8	50.4
1976	94.3	81.3	86.2	52.3	55.4
1977	94.2	82.0	87.0	54.1	57.4
1978	92.5	82.3	88.9	56.8	61.3
1979	92.7	82.9	89.1	60.4	65.1
1980	94.7	85.3	90.1	65.3	69.0
1981	95.0	85.7	90.2	73.9	77.7
1982	96.1	90.6	94.4	79.8	82.8
1983	98.0	94.2	96.1	83.0	84.7
1984	97.5	94.7	97.2	86.2	88.5
1985	97.6	95.8	98.2	89.3	91.4
1986	99.4	98.2	98.8	93.8	94.4
1987	100.0	100.0	100.0	100.0	100.0
1988	104.0	102.2	98.3	105.4	101.3
1989	102.8	100.3	97.6	111.1	108.0
1990	100.6	100.5	99.8	117.0	116.2
1991	94.3	98.1	104.0	124.4	131.9
1992	93.9	96.3	102.6	132.5	141.1
<b>Average annual percent change:</b>					
1967-92	.0	1.5	1.4	6.8	6.8
1987-92	-1.3	-7	.5	5.8	7.1

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

**Table 209. Federal Government-Military base services: Indexes of output per employee year and related data, 1967-92**  
(1987 = 100)

Fiscal year	Output per employee year	Output	Employee years	Compensation per employee year	Unit labor cost
Index:					
1967	90.9	168.0	184.9	26.6	29.2
1968	94.7	163.1	172.1	29.5	31.2
1969	95.1	156.7	164.8	32.4	34.0
1970	92.2	150.2	162.8	37.8	40.9
1971	84.9	143.8	169.3	39.3	46.3
1972	85.9	142.5	165.9	39.3	45.8
1973	81.3	124.6	153.2	42.4	52.1
1974	82.2	116.2	141.4	42.7	51.9
1975	86.8	116.7	134.3	48.1	55.4
1976	90.7	113.5	125.1	52.7	58.1
1977	90.8	106.8	117.6	60.0	66.1
1978	91.2	103.1	113.1	61.6	67.6
1979	92.1	101.4	110.1	63.6	69.1
1980	92.8	102.6	110.6	67.8	73.1
1981	95.2	104.2	109.4	75.5	79.2
1982	99.2	105.3	106.1	81.7	82.4
1983	97.9	105.7	107.9	82.3	84.1
1984	90.2	102.4	113.4	83.4	92.4
1985	91.1	97.1	106.5	92.3	101.3
1986	98.0	102.3	104.4	96.8	98.8
1987	100.0	100.0	100.0	100.0	100.0
1988	97.1	97.7	100.7	101.9	105.0
1989	99.3	97.0	97.7	110.6	111.4
1990	95.5	95.9	100.5	115.0	120.5
1991	101.2	98.2	97.0	115.3	113.9
1992	101.9	90.5	88.8	121.5	119.3
Average annual percent change:					
1967-92	.5	-2.4	-2.9	6.3	5.8
1987-92	.4	-2.0	-2.3	4.0	3.6

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

**Table 210. Federal Government-Natural resources and environmental management: Indexes of output per employee year and related data, 1967-92**  
(1987 = 100)

Fiscal year	Output per employee year	Output	Employee years	Compensation per employee year	Unit labor cost
Index:					
1967	71.8	82.3	114.7	27.3	38.0
1968	72.6	82.5	113.6	29.0	40.0
1969	72.1	79.5	110.2	31.4	43.5
1970	72.8	76.8	105.5	35.7	49.1
1971	77.3	79.0	102.2	39.1	50.6
1972	79.0	82.1	103.8	40.8	51.6
1973	80.5	81.5	101.3	43.4	53.9
1974	79.5	80.1	100.7	45.7	57.5
1975	78.3	81.3	103.8	47.9	61.1
1976	79.4	84.9	106.8	51.6	64.9
1977	79.5	87.5	110.0	54.4	68.4
1978	83.6	94.1	112.6	57.5	68.8
1979	81.3	92.1	113.2	61.4	75.5
1980	81.1	91.9	113.3	70.2	86.6
1981	81.7	93.9	115.0	74.2	90.9
1982	89.0	99.4	111.7	79.8	89.6
1983	89.6	99.8	111.3	85.7	95.6
1984	92.0	101.0	109.9	90.8	98.8
1985	94.9	100.3	105.7	97.0	102.3
1986	95.8	98.6	102.9	96.8	101.0
1987	100.0	100.0	100.0	100.0	100.0
1988	100.8	104.6	103.7	107.5	106.6
1989	98.7	99.1	100.4	108.5	109.9
1990	102.4	106.5	104.0	111.2	106.6
1991	99.9	104.1	104.2	116.6	116.8
1992	97.8	102.3	104.6	119.4	122.1
Average annual percent change:					
1967-92	1.2	.9	-.4	6.1	4.8
1987-92	-.4	.4	.9	3.6	4.1

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

**Table 211. Federal Government—Personnel investigations: Indexes of output per employee year and related data, 1967–92**  
(1967 = 100)

Fiscal year	Output per employee year	Output	Employee years	Compensation per employee year	Unit labor cost
Index:					
1967	63.7	36.9	57.9	27.8	43.6
1968	69.2	39.2	56.7	31.2	45.0
1969	64.6	37.6	58.1	33.3	51.5
1970	63.7	34.0	53.3	39.4	61.8
1971	71.9	34.7	48.2	39.8	55.3
1972	72.4	31.9	44.0	44.4	61.3
1973	75.1	30.8	41.0	47.1	62.8
1974	77.5	102.7	132.6	43.4	56.0
1975	82.0	107.9	131.7	47.7	58.2
1976	78.0	90.4	115.9	52.0	66.7
1977	93.5	94.7	101.2	56.5	60.4
1978	96.6	99.1	102.6	59.7	61.8
1979	101.6	62.0	61.1	66.6	65.6
1980	100.7	61.5	61.1	73.1	72.6
1981	102.7	67.8	66.1	78.9	76.9
1982	97.7	76.5	78.3	78.0	79.8
1983	93.0	78.6	84.6	88.5	95.2
1984	95.6	82.2	86.0	89.2	93.3
1985	98.7	90.5	91.6	93.8	95.0
1986	92.3	90.6	98.2	94.6	102.5
1987	100.0	100.0	100.0	100.0	100.0
1988	106.8	102.8	96.3	114.2	106.9
1989	99.2	102.2	103.1	117.1	118.0
1990	118.7	136.6	115.1	123.3	103.9
1991	117.0	137.6	117.6	133.3	114.0
1992	127.1	127.4	100.3	141.5	111.3
Average annual percent change:					
1967-92	2.8	5.1	2.2	6.7	3.8
1987-92	4.9	5.0	.1	7.2	2.2

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

**Table 212. Federal Government—Personnel management: Indexes of output per employee year and related data, 1967–92**  
(1967 = 100)

Fiscal year	Output per employee year	Output	Employee years	Compensation per employee year	Unit labor cost
Index:					
1967	81.8	44.7	54.6	34.8	42.6
1968	87.4	59.0	67.5	36.1	41.4
1969	82.9	55.9	67.4	38.8	46.8
1970	85.2	56.1	65.8	44.2	51.9
1971	97.1	69.1	71.1	45.9	47.3
1972	96.5	67.7	70.2	47.5	49.2
1973	94.9	72.9	76.8	47.6	50.1
1974	101.5	85.5	84.2	50.4	49.6
1975	96.8	88.0	90.9	52.8	54.6
1976	94.6	86.3	91.2	54.7	57.8
1977	101.6	93.8	92.3	60.0	59.1
1978	98.1	92.9	94.7	64.5	65.7
1979	110.5	22.5	20.4	76.8	69.5
1980	101.5	105.0	103.4	62.9	62.0
1981	98.9	97.9	98.9	75.0	75.8
1982	108.5	99.6	91.8	80.8	74.5
1983	95.9	96.7	100.9	84.9	88.5
1984	103.6	98.6	95.2	88.8	85.7
1985	101.7	99.0	97.3	92.1	90.5
1986	102.4	101.9	99.5	95.5	93.3
1987	100.0	100.0	100.0	100.0	100.0
1988	101.3	98.1	96.9	102.7	101.3
1989	101.8	95.9	94.2	106.6	104.7
1990	93.2	91.9	98.6	111.6	119.8
1991	88.3	85.4	96.7	117.6	133.2
1992	89.3	88.2	98.8	122.4	137.2
Average annual percent change:					
1967-92	.4	2.8	2.4	5.2	4.8
1987-92	-2.2	-2.5	-2	4.1	6.5

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

**Table 213. Federal Government-Postal service (SIC 4311): Indexes of output per employee year and related data, 1967-92**  
(1967 = 100)

Fiscal year	Output per employee year	Output	Employee years	Compensation per employee year	Unit labor cost
Index:					
1967	81.5	68.4	83.9	22.5	27.7
1968	80.1	69.3	86.6	23.7	29.5
1969	80.6	71.5	88.7	25.4	31.5
1970	81.0	73.0	90.2	27.6	34.1
1971	82.8	74.4	89.9	31.6	38.2
1972	83.6	73.5	87.9	34.0	40.7
1973	88.6	75.3	85.0	36.5	41.2
1974	86.2	75.4	87.4	40.5	46.9
1975	86.1	74.2	86.1	46.1	53.5
1976	86.4	73.4	84.9	51.8	60.0
1977	90.2	74.8	82.9	58.1	64.5
1978	93.0	76.5	82.2	62.7	67.4
1979	91.9	76.8	83.6	66.6	72.5
1980	94.8	79.9	84.3	72.0	76.0
1981	96.0	81.1	84.5	78.3	81.6
1982	96.5	81.5	84.5	83.0	86.0
1983	96.8	82.9	85.5	86.2	88.9
1984	98.1	88.4	90.1	90.4	92.1
1985	98.4	92.4	93.9	95.3	96.8
1986	99.9	96.7	96.7	97.1	97.2
1987	100.0	100.0	100.0	100.0	100.0
1988	99.9	103.0	103.1	108.6	106.7
1989	99.8	103.5	103.7	114.6	114.9
1990	104.2	107.3	103.0	122.0	117.1
1991	103.8	107.0	103.1	128.5	123.8
1992	104.7	107.4	102.6	137.5	131.2
Average annual percent change:					
1967-92	1.0	1.8	.8	7.5	6.4
1987-92	.9	1.4	.5	6.6	5.6

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

**Table 214. Federal Government-Printing and duplication: Indexes of output per employee year and related data, 1967-92**  
(1967 = 100)

Fiscal year	Output per employee year	Output	Employee years	Compensation per employee year	Unit labor cost
Index:					
1967	92.0	144.4	156.9	25.9	28.1
1968	91.1	142.7	156.7	27.2	29.9
1969	88.0	138.1	156.9	28.7	32.6
1970	87.5	137.3	156.9	31.9	36.5
1971	80.7	121.1	150.0	35.2	43.5
1972	79.4	117.4	147.7	39.0	49.1
1973	81.3	121.3	149.2	40.5	49.8
1974	78.4	115.1	146.7	44.4	56.6
1975	77.6	109.6	141.2	49.3	63.6
1976	79.1	108.1	136.6	56.3	71.1
1977	78.8	101.4	128.6	61.6	78.1
1978	76.9	95.7	124.5	65.8	85.5
1979	81.8	98.0	119.9	70.8	86.6
1980	85.4	98.1	114.9	75.0	87.8
1981	80.9	94.1	116.3	76.0	94.0
1982	83.4	91.0	109.1	81.7	97.9
1983	89.2	98.1	110.0	86.1	96.6
1984	94.9	104.5	110.2	88.5	93.3
1985	96.3	104.1	108.1	92.4	96.0
1986	98.5	102.4	104.0	97.1	98.6
1987	100.0	100.0	100.0	100.0	100.0
1988	104.3	102.6	98.4	102.0	97.8
1989	102.4	97.4	95.1	106.0	103.5
1990	103.1	95.3	92.4	111.0	107.6
1991	92.6	82.9	89.5	115.4	124.7
1992	101.0	90.8	89.9	122.7	121.5
Average annual percent change:					
1967-92	.4	-1.8	-2.2	6.4	6.0
1987-92	.2	-1.9	-2.1	4.2	4.0

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

**Table 215. Federal Government-Procurement: Indexes of output per employee year and related data, 1967-92**  
(1967 = 100)

Fiscal year	Output per employee year	Output	Employee years	Compensation per employee year	Unit labor cost
Index:					
1967	73.2	78.9	107.7	34.5	47.2
1968	70.8	74.3	104.9	37.2	52.6
1969	69.7	72.3	103.8	40.8	58.6
1970	63.0	60.9	96.5	46.0	73.0
1971	69.6	59.6	85.6	50.3	72.3
1972	69.9	60.1	85.9	45.8	65.4
1973	72.2	61.4	85.0	49.4	68.5
1974	76.8	62.7	81.6	51.2	66.6
1975	79.0	63.8	80.8	54.8	69.4
1976	81.8	64.2	78.5	58.0	70.8
1977	82.3	67.2	81.7	60.7	73.7
1978	89.5	73.1	81.6	65.3	72.9
1979	95.0	75.2	79.1	68.5	72.1
1980	99.7	81.0	81.2	72.1	72.4
1981	105.2	88.0	83.7	79.2	75.2
1982	103.2	90.4	87.7	83.0	80.4
1983	102.7	93.0	90.6	87.6	85.3
1984	104.7	95.9	91.5	90.7	86.6
1985	100.9	97.8	97.0	94.1	93.3
1986	98.4	100.7	102.3	97.7	99.3
1987	100.0	100.0	100.0	100.0	100.0
1988	96.5	98.1	101.7	102.4	106.1
1989	90.8	93.9	103.4	104.0	114.6
1990	85.8	90.8	105.7	108.4	126.3
1991	85.2	90.6	106.3	113.9	133.7
1992	83.7	88.3	105.5	120.7	144.2
Average annual percent change:					
1967-92	.5	.5	-.1	5.1	4.6
1987-92	-3.5	-2.5	1.1	3.8	7.6

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

**Table 216. Federal Government-Records management: Indexes of output per employee year and related data, 1967-92**  
(1967 = 100)

Fiscal year	Output per employee year	Output	Employee years	Compensation per employee year	Unit labor cost
Index:					
1967	58.7	93.1	158.6	28.7	48.8
1968	57.5	93.0	161.7	28.9	50.2
1969	63.0	100.1	158.9	32.1	50.9
1970	61.7	103.2	167.1	36.1	58.5
1971	59.7	100.8	168.7	39.6	66.3
1972	66.4	102.5	154.3	44.5	67.0
1973	65.6	102.7	156.4	45.3	69.0
1974	64.0	81.9	127.9	50.3	78.5
1975	69.4	76.0	109.5	52.7	75.9
1976	75.0	82.9	110.4	58.1	77.4
1977	79.8	88.9	111.4	61.7	77.3
1978	82.8	90.9	109.8	66.5	80.3
1979	87.8	99.3	113.1	69.7	79.4
1980	89.1	102.2	114.7	71.2	79.9
1981	90.9	97.7	107.5	71.4	78.6
1982	95.8	97.1	101.3	78.2	81.6
1983	97.3	98.0	100.7	78.9	81.0
1984	100.0	100.1	100.1	83.3	83.4
1985	96.9	99.0	102.1	90.9	93.8
1986	102.5	106.5	103.9	92.6	90.2
1987	100.0	100.0	100.0	100.0	100.0
1988	95.4	93.2	97.7	101.5	106.4
1989	94.5	91.8	97.0	104.6	110.7
1990	107.6	96.8	89.9	113.4	105.4
1991	106.7	92.6	86.8	123.1	115.3
1992	104.0	88.4	85.0	128.8	123.8
Average annual percent change:					
1967-92	2.3	-.2	-2.5	6.2	3.8
1987-92	.8	-2.4	-3.2	5.2	4.4

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

**Table 217. Federal Government-Regulation compliance and enforcement: Indexes of output per employee year and related data, 1967-92**  
(1967 = 100)

Fiscal year	Output per employee year	Output	Employee years	Compensation per employee year	Unit labor cost
Index:					
1967	59.1	40.7	68.8	28.1	47.7
1968	60.8	42.8	70.4	29.2	48.0
1969	62.7	43.6	69.6	31.5	50.3
1970	64.4	45.4	70.4	35.6	55.2
1971	65.6	47.7	72.8	37.8	57.7
1972	67.8	49.8	73.4	40.2	59.2
1973	69.5	53.9	77.5	41.2	59.3
1974	70.2	56.9	81.0	44.1	62.8
1975	69.6	60.0	86.2	47.0	67.6
1976	71.7	62.9	87.6	50.9	70.9
1977	73.2	65.3	89.2	54.5	74.4
1978	74.1	67.8	91.6	59.3	80.0
1979	76.5	72.0	94.2	62.9	82.2
1980	78.8	74.5	94.6	67.9	86.3
1981	82.3	75.7	92.0	73.3	89.0
1982	86.8	76.5	88.2	79.6	91.7
1983	92.7	82.1	88.6	85.3	92.0
1984	92.8	84.1	90.5	88.7	95.5
1985	95.2	89.6	94.1	94.5	99.2
1986	102.9	97.4	94.7	95.6	92.9
1987	100.0	100.0	100.0	100.0	100.0
1988	95.8	104.4	109.0	104.0	108.5
1989	95.5	107.9	112.9	107.3	112.3
1990	96.0	109.2	113.7	113.4	118.2
1991	91.5	109.3	119.4	124.3	135.8
1992	92.9	111.3	119.8	135.2	145.5
Average annual percent change:					
1967-92	1.8	4.1	2.2	6.5	4.6
1987-92	-1.5	2.2	3.7	6.2	7.8

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

**Table 218. Federal Government-Regulation rulemaking and licensing: Indexes of output per employee year and related data, 1967-92**  
(1967 = 100)

Fiscal year	Output per employee year	Output	Employee years	Compensation per employee year	Unit labor cost
Index:					
1967	49.3	34.9	70.7	28.6	57.9
1968	51.4	37.2	72.4	29.8	57.9
1969	53.8	37.8	70.3	32.5	60.4
1970	56.6	40.0	70.7	37.6	66.5
1971	59.3	42.8	72.2	39.7	66.9
1972	59.8	43.5	72.7	41.2	69.0
1973	61.8	47.6	77.0	42.7	69.2
1974	60.4	48.3	80.0	45.5	75.3
1975	60.4	49.9	82.6	47.8	79.1
1976	61.0	50.3	82.5	51.1	83.8
1977	64.6	54.2	83.9	56.2	87.0
1978	60.2	58.5	97.2	56.7	94.2
1979	61.7	58.4	94.7	60.9	98.7
1980	70.7	68.5	96.8	67.1	94.8
1981	78.6	75.9	96.5	74.3	94.6
1982	84.9	78.0	91.9	84.0	99.0
1983	90.0	87.1	96.8	87.8	97.6
1984	94.3	94.5	100.2	92.0	97.5
1985	99.2	100.1	100.9	94.8	95.6
1986	97.4	98.0	100.5	95.0	97.5
1987	100.0	100.0	100.0	100.0	100.0
1988	99.8	101.6	101.8	102.1	102.2
1989	98.8	104.2	105.5	111.1	112.4
1990	99.5	107.2	107.7	121.7	122.3
1991	101.1	111.8	110.5	129.7	128.3
1992	104.6	116.5	111.3	141.4	135.2
Average annual percent change:					
1967-92	3.1	4.9	1.8	6.6	3.4
1987-92	.9	3.1	2.2	7.2	6.2

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.



**Table 219. Federal Government-Social services and benefits: Indexes of output per employee year and related data, 1967-92**  
(1967 = 100)

Fiscal year	Output per employee year	Output	Employee years	Compensation per employee year	Unit labor cost
Index:					
1967	62.5	49.0	78.5	26.9	43.1
1968	62.7	52.0	82.8	28.1	44.7
1969	64.8	54.2	83.6	30.1	46.4
1970	67.5	56.0	82.9	34.6	51.2
1971	71.5	61.3	85.8	37.6	52.6
1972	72.7	64.1	88.1	39.9	54.9
1973	75.9	68.1	89.8	42.2	55.6
1974	74.6	78.8	105.7	42.9	57.5
1975	76.7	89.6	116.8	45.2	59.0
1976	79.9	96.4	120.6	49.1	61.4
1977	83.1	101.2	121.7	53.5	64.3
1978	82.6	96.1	118.7	58.4	70.6
1979	85.2	101.9	119.6	62.8	73.7
1980	84.0	99.0	117.9	67.9	80.8
1981	84.9	98.1	115.5	73.9	87.0
1982	85.1	99.4	116.8	78.4	92.1
1983	91.2	107.2	117.5	83.7	91.8
1984	91.5	104.8	114.5	87.5	95.6
1985	98.5	107.9	109.6	92.4	93.8
1986	95.3	101.0	106.0	94.8	99.5
1987	100.0	100.0	100.0	100.0	100.0
1988	103.5	99.3	95.9	106.6	103.0
1989	107.1	100.6	93.9	112.7	105.2
1990	105.3	97.2	92.3	118.4	112.5
1991	102.9	96.9	94.2	125.1	121.6
1992	110.2	106.1	96.3	134.0	121.6
Average annual percent change:					
1967-92	2.3	3.1	.8	6.6	4.2
1987-92	2.0	1.2	-.8	6.0	4.0

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

**Table 220. Federal Government-Specialized manufacturing: Indexes of output per employee year and related data, 1967-92**  
(1967 = 100)

Fiscal year	Output per employee year	Output	Employee years	Compensation per employee year	Unit labor cost
Index:					
1967	53.7	86.6	181.3	26.2	48.8
1968	58.3	88.6	152.0	28.3	48.5
1969	59.7	92.0	154.2	29.9	50.2
1970	63.4	93.5	147.5	32.8	51.7
1971	70.0	100.3	143.3	35.8	51.1
1972	66.1	97.0	146.7	37.9	57.3
1973	64.9	102.0	157.2	41.6	64.1
1974	64.5	91.5	141.8	45.4	70.4
1975	64.0	84.8	132.5	49.6	77.5
1976	66.9	90.9	135.8	53.1	79.3
1977	68.4	80.6	117.8	59.8	87.5
1978	72.6	83.2	114.7	63.4	87.4
1979	81.5	87.0	106.7	68.5	84.0
1980	81.8	88.8	108.5	76.5	93.5
1981	97.0	96.2	101.2	80.4	82.9
1982	91.2	96.2	105.5	86.8	95.2
1983	94.4	96.6	104.4	88.5	93.7
1984	98.4	103.3	105.0	90.1	91.6
1985	100.5	104.9	104.3	95.6	95.1
1986	102.0	100.0	98.0	96.7	94.8
1987	100.0	100.0	100.0	100.0	100.0
1988	107.6	105.2	97.7	107.5	99.9
1989	107.8	99.9	92.7	114.1	105.8
1990	101.4	98.9	97.6	121.5	119.8
1991	98.7	97.0	98.3	131.1	132.8
1992	96.2	95.4	99.1	138.5	144.0
Average annual percent change:					
1967-92	2.4	.4	-1.9	6.9	4.4
1987-92	-.8	-.9	-.2	6.7	7.6

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

**Table 221. Federal Government-Supply and inventory control: Indexes of output per employee year and related data, 1967-92**  
(1967 = 100)

Fiscal year	Output per employee year	Output	Employee years	Compensation per employee year	Unit labor cost
Index:					
1967	73.5	145.6	198.2	30.7	41.8
1968	75.8	146.8	183.6	32.0	42.2
1969	86.9	162.2	186.6	31.7	36.5
1970	81.5	141.8	174.0	35.7	43.8
1971	82.3	129.0	156.7	40.1	48.7
1972	82.7	123.7	149.5	42.7	51.6
1973	83.3	115.4	138.6	45.3	54.4
1974	83.3	105.5	126.5	49.6	59.5
1975	90.4	106.2	117.4	51.4	56.9
1976	92.3	101.6	110.1	57.6	62.5
1977	96.0	94.0	98.0	62.2	64.8
1978	92.9	95.0	102.2	62.1	66.8
1979	91.3	90.2	98.8	67.4	73.7
1980	93.8	92.3	98.4	71.4	76.1
1981	94.8	93.1	98.2	75.7	79.9
1982	101.8	98.5	96.7	81.8	80.3
1983	100.1	98.6	98.5	86.1	86.0
1984	96.2	96.8	100.6	89.3	92.8
1985	92.8	95.3	102.7	93.7	101.1
1986	95.1	97.4	102.5	97.3	102.4
1987	100.0	100.0	100.0	100.0	100.0
1988	103.4	98.8	95.6	102.4	99.0
1989	101.8	96.2	94.5	104.7	102.8
1990	107.3	97.6	90.9	108.7	101.3
1991	113.5	91.1	80.2	115.2	101.5
1992	120.8	119.7	99.1	115.5	95.6
Average annual percent change:					
1967-92	2.0	-8	-2.7	5.4	3.4
1987-92	3.9	3.7	-2	2.9	-9

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

**Table 222. Federal Government-Traffic management: Indexes of output per employee year and related data, 1972-91**  
(1967 = 100)

Fiscal year	Output per employee year	Output	Employee years	Compensation per employee year	Unit labor cost
Index:					
1972	74.4	111.0	149.3	48.8	65.6
1973	74.0	105.3	142.3	50.9	66.8
1974	68.7	92.1	134.2	52.0	75.8
1975	73.6	88.8	120.7	55.5	75.3
1976	71.8	89.0	124.1	58.7	81.8
1977	76.5	86.0	115.1	64.6	84.4
1978	81.2	91.9	113.2	67.1	82.6
1979	88.2	95.4	108.1	71.4	80.9
1980	87.9	92.9	105.6	71.6	81.5
1981	95.5	91.9	96.3	75.8	79.4
1982	89.4	92.6	103.5	86.5	96.7
1983	88.5	93.6	105.8	88.8	100.3
1984	86.2	93.1	108.0	94.0	109.0
1985	92.4	97.1	105.1	100.4	106.7
1986	85.5	89.2	104.4	97.1	113.6
1987	100.0	100.0	100.0	100.0	100.0
1988	114.6	103.2	90.1	106.2	92.7
1989	109.1	105.7	96.9	109.8	100.7
1990	105.8	112.5	106.3	109.4	103.4
1991	199.5	211.2	105.9	113.8	57.1
Average annual percent change:					
1972-91	5.3	3.4	-1.8	4.6	-7
1987-91	18.8	20.6	1.4	3.3	-13.1

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

**Table 223. Federal Government-Transportation: Indexes of output per employee year and related data, 1967-92**  
(1967 = 100)

Fiscal year	Output per employee year	Output	Employee years	Compensation per employee year	Unit labor cost
Index:					
1967	63.2	61.9	97.9	24.1	38.2
1968	69.8	69.4	99.5	25.5	36.6
1969	72.8	73.3	100.6	26.4	39.0
1970	74.5	76.8	103.1	33.2	44.6
1971	71.7	76.5	106.7	36.8	51.4
1972	74.6	79.7	106.8	39.9	53.5
1973	78.3	83.3	106.3	41.2	52.6
1974	79.4	83.7	105.5	43.8	55.1
1975	80.8	85.7	106.1	47.8	59.2
1976	82.3	86.6	105.3	51.9	63.1
1977	86.9	92.0	105.8	55.1	63.4
1978	91.6	96.0	107.1	58.3	63.7
1979	93.1	96.4	105.7	62.2	66.9
1980	93.5	99.8	106.6	66.5	71.1
1981	97.4	98.0	100.6	74.5	76.5
1982	99.4	95.5	96.1	78.9	79.3
1983	99.6	94.8	95.2	86.5	86.9
1984	98.5	94.9	96.4	90.7	92.1
1985	99.5	97.3	97.8	95.0	95.5
1986	101.2	98.3	97.2	97.8	96.6
1987	100.0	100.0	100.0	100.0	100.0
1988	101.8	99.5	97.8	106.4	104.5
1989	101.6	100.8	99.2	113.4	111.5
1990	100.3	101.5	101.1	123.1	122.7
1991	99.8	102.3	102.5	130.6	130.9
1992	99.6	104.3	104.7	136.8	137.3
Average annual percent change:					
1967-92	1.8	2.1	.3	7.2	5.3
1987-92	-.1	.8	.9	6.5	6.6

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

**Table 224. State and local government-Electric power (SIC 4911): Indexes of output per employee year and related data, 1967-92**  
(1967 = 100)

Fiscal year	Output per employee year	Output	Employee years
Index:			
1967	64.4	46.9	72.9
1968	71.0	50.8	71.6
1969	80.6	55.8	69.1
1970	84.0	60.3	71.7
1971	87.1	64.7	74.3
1972	88.7	65.8	74.3
1973	88.0	67.6	76.8
1974	87.1	68.2	78.2
1975	88.8	68.4	77.0
1976	93.5	72.4	77.3
1977	102.5	77.1	75.1
1978	102.3	81.1	79.3
1979	103.0	85.7	83.2
1980	104.6	87.2	83.3
1981	102.8	88.8	86.3
1982	100.4	86.1	85.8
1983	98.6	88.1	89.4
1984	97.3	91.0	93.6
1985	97.8	94.0	96.0
1986	100.1	99.1	99.0
1987	100.0	100.0	100.0
1988	102.9	103.3	100.3
1989	104.4	103.4	99.1
1990	105.8	107.0	101.1
1991	106.5	109.1	102.4
1992	104.0	109.2	105.0
Average annual percent change:			
1967-92	1.9	3.4	1.5
1987-92	.8	1.8	1.0

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output and employment based on data from the American Public Power Association, the Edison Electric Institute, and the Bureau of the Census.

**Table 225. State and local government-State sales of alcoholic beverages (Parts of SIC 5182, 5921): Indexes of output per employee year and related data, 1967-92**  
(1967 = 100)

Fiscal year	Output per employee year	Output	Employee years
Index:			
1967 .....	75.6	89.5	118.4
1968 .....	76.1	93.0	122.1
1969 .....	77.1	97.4	126.3
1970 .....	76.4	100.5	131.6
1971 .....	80.9	104.6	129.3
1972 .....	83.8	108.8	129.9
1973 .....	89.2	114.2	128.0
1974 .....	90.0	114.6	127.4
1975 .....	92.9	118.9	128.0
1976 .....	93.6	119.9	128.1
1977 .....	96.6	121.4	125.7
1978 .....	98.6	125.3	127.0
1979 .....	100.4	125.8	125.3
1980 .....	99.8	125.0	125.3
1981 .....	99.7	123.7	124.1
1982 .....	101.9	120.3	118.1
1983 .....	103.9	116.2	111.9
1984 .....	104.9	113.1	107.9
1985 .....	99.2	109.3	110.2
1986 .....	96.3	105.7	109.7
1987 .....	100.0	100.0	100.0
1988 .....	97.9	95.3	97.4
1989 .....	97.8	92.8	94.9
1990 .....	98.2	91.9	93.7
1991 .....	98.0	87.4	89.1
1992 .....	100.4	87.0	86.7
Average annual percent change:			
1967-92 .....	1.1	-.1	-1.2
1987-92 .....	.1	-2.7	-2.8

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output and employment based on data

from the Distilled Spirits Council of the U.S.; the National Alcoholic Beverage Control Association, Inc.; and the Bureau of the Census.

**Table 226. State and local government-Unemployment insurance (SIC 9441): Indexes of output per employee year and related data, 1967-92**  
(1967 = 100)

Fiscal year	Output per employee year	Output	Employee years
Index:			
1967 .....	88.4	57.9	65.6
1968 .....	83.8	57.6	68.8
1969 .....	81.8	55.6	68.0
1970 .....	90.5	64.8	71.5
1971 .....	103.0	82.5	80.2
1972 .....	89.8	85.3	94.9
1973 .....	88.7	77.1	87.0
1974 .....	101.1	83.0	82.2
1975 .....	123.5	138.3	112.0
1976 .....	108.9	156.6	143.8
1977 .....	95.3	132.0	138.6
1978 .....	84.5	104.2	123.3
1979 .....	79.5	97.3	122.3
1980 .....	100.2	122.6	122.3
1981 .....	92.7	119.5	129.1
1982 .....	106.4	141.4	133.0
1983 .....	110.1	155.9	141.6
1984 .....	93.8	109.6	116.9
1985 .....	97.3	109.2	112.2
1986 .....	101.7	105.7	103.9
1987 .....	100.0	100.0	100.0
1988 .....	98.0	95.0	96.9
1989 .....	98.4	95.3	96.8
1990 .....	108.4	103.1	95.1
1991 .....	117.3	120.2	102.4
1992 .....	121.8	142.1	116.8
Average annual percent change:			
1964-92 .....	1.2	2.5	1.3
1987-92 .....	4.0	7.3	3.1

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output and employment based on data from the Employment and Training Administration, U.S. Department of Labor.

# Appendix A. Methods and Data Sources

## Industry Labor Productivity Measures

The indexes of output per employee hour are computed by dividing an index of output by an index of aggregate employee hours. Corresponding measures also are computed relating output to the number of employees. For industries in trade and services, measures are prepared relating output to the hours of all persons involved in producing that output, including self-employed and unpaid family workers. Where data are available, output indexes are based on the physical quantity of the products or services of the industry combined with fixed-period weights. Unit employee hour weights are used whenever possible to aggregate the data.

For many industries, however, unit labor weights are not obtainable at the detailed product level, so substitute weights must be used. The most common substitute weights are unit values, which are used if they are believed to be proportional to unit employee hours. For many manufacturing industries, however, employee hour weights at the product-class level can be developed from the available data. In such cases, a dual-level weighting system is used: unit value weights at the product level and employee hour weights at the product-class level.

Although the weights relate to fixed periods, they are updated periodically, usually in conjunction with economic censuses, which are conducted every 5 years. The most current weights used were derived from the 1987 economic censuses.

For three industries—railroads, iron mining, and copper mining—two alternative productivity measures, using different concepts of industry output, are presented. When adequate annual physical quantity data are not available, indexes are derived from data on the value of industry output adjusted for price change. Since the adjustment for price change often is referred to as deflation, the indexes usually are called “deflated value” indexes. Such indexes are conceptually equivalent to indexes which use data on physical quantities of products combined with unit value weights. A deflated value of output is derived by dividing the value of the industry’s output by an industry price index. An index of these deflated values shows the change in the real value of output between the past and current periods.

Periodically, the output indexes for most of the measures are adjusted to levels based on data reported in the economic censuses for mining, manufacturing, trade, and services. The most current adjustments presented in this report reflect data from the 1987 economic censuses.

Employment and employee hour indexes are developed primarily from basic data compiled by the Bureau of Labor Statistics and the Bureau of the Census. The BLS data are from the Bureau’s monthly establishment survey (the Current Employment Statistics survey) and the Bureau of Census data are from the Census of Manufactures and the Annual Survey of Manufactures. In concept, indexes based on employee hour data from the Bureau of the Census relate to plant hours only. Employee hour data from BLS include hours at work and also payroll hours such as vacations, holidays, and sick leave paid by the establishment directly to the employee. Because of changes in paid leave over time, output per employee hour worked could show a different rate of gain than output per employee hour paid. However, actual differences between Census data and BLS data may result from statistical limitations in the data as well as from differences in concepts.

In general, BLS data are the preferred source for measuring industry employment and hours because they are collected monthly and are benchmarked each year to comprehensive data from the State unemployment insurance programs. Although both BLS and the Bureau of the Census provide data on production worker hours, neither source provides annual data by industry on nonproduction worker or all-employee hours.<sup>1</sup> Therefore, the nonproduction worker hours are estimated.

The estimates of aggregate nonproduction worker hours for the manufacturing industries are derived from published employment data and from estimates of average annual hours paid or worked per nonproduction worker. Prior to 1968, the estimates of average annual hours paid were calculated by multiplying the number of workweeks in the year by the scheduled weekly hours. Estimated hours for vacations, holidays, disability, and personal time off were subtracted from average annual hours paid to obtain an estimate of average annual hours worked. Vacation and holiday trends were based on studies by the former U.S. Department of Health, Education, and Welfare and on data from BLS surveys. Personal time off was estimated as a constant on the basis of data obtained from various sources. From 1968 to 1977, the esti-

<sup>1</sup> The term “production workers” covers manufacturing and mining employees who work at the plant or mine and who are generally in nonsupervisory occupations. The remaining employees, such as professional, technical, clerical, supervisory, etc., are identified as “nonproduction workers”.



mates of average annual hours paid and average annual hours worked have been based on data collected in the BLS survey, Employee Compensation in the Private Nonfarm Economy. Because these surveys are no longer conducted, the 1977 levels are being carried forward until other data become available.

For the trade and service industries, measures of the hours of partners, proprietors, and supervisory workers were developed. Except for hotels, motels, and tourist courts; and beauty and barber shops, estimates were also made for the hours of unpaid family workers. Average weekly hours worked for partners, proprietors, and unpaid family workers were obtained from unpublished data collected in the Current Population Survey. Average weekly hours worked by supervisory employees were obtained from the censuses of population. Estimates for intercensal years were derived using extrapolation and linear interpolation techniques.

All-employee hour estimates for the manufacturing industries are derived by summing the aggregate hours for production workers and the estimated hours for nonproduction workers. Hours of all persons are derived by summing the aggregate hours for paid employees, partners, proprietors, and unpaid family workers.

Manufacturing and mining hours measures involving nonproduction worker hours are subject to a wider margin of error than are the measures involving only production worker hours because it is necessary to estimate the average hours of nonproduction workers. In general, any error in these estimates would have a relatively insignificant effect on the trend in the hours for all employees.

The output indexes and employee hour components of the industry productivity indexes are based on data from a number of different sources, which are identified in the tables. For many of the industries, the 1992 output indexes are based on the data sources that are regularly used. However, for some industries, the normal data sources are not yet available, and other information was used, such as Federal Reserve Board output indexes, the Current Industrial Reports of the Bureau of the Census, and trade association data. All output per employee hour measures for 1992 are considered preliminary and are subject to revision. The indexes refer to a standard reference base 1987=100, and they conform to the 1987 Standard Industrial Classification (SIC) definitions.

## Industry Multifactor Productivity Measures

### Output

The output measures underlying multifactor productivity are calculated using, whenever possible, the same units of products or services of the industry as are used in measuring output for the industry labor productivity measures. Whenever possible, physical quantities are used as the unit of measurement; when physical quantities are unavailable, constant-dollar value of shipments, sales, or revenue data are

used. The multifactor productivity output measures differ from the labor productivity output measures primarily in the method used for weighting together the various categories of output, as explained below.

The multifactor output measure uses value share weights for combining the various categories of output of an industry. The price of each output category is multiplied by its corresponding quantity and then expressed as a share of the total value of output. These value shares, averaged at time  $t$  and  $t-1$ , are used to weight together the differences between  $t$  and  $t-1$  in the logarithms of the quantities. The antilogarithms of the sums are taken and chained together to form the index. This form of weighting is known as Tornqvist aggregation. The output data sources are the same as those used in calculating indexes for the labor productivity measures.

### Employee hours

Employee hour indexes are calculated in the same way as those used in measuring industry labor productivity. As with the labor productivity measure, employee hours are treated as homogeneous and additive with no distinction made between hours of different groups of employees. The index is computed by simply dividing the aggregate employee hours for each year by the base-period total. Data sources are the same as those used in calculating employee hour indexes for the labor productivity measures.

### Capital

The measure of capital input is based on the flow of services derived from the stock of physical assets. Physical capital is composed of equipment, structures, land, and inventories. Financial capital is excluded. Capital services are estimated by calculating capital stocks; changes in the stocks are assumed proportional to changes in capital services for each asset. Stocks of different asset types are Tornqvist-aggregated, using cost shares based on estimated rental prices to construct the weights for assets of different types.

Capital stocks are calculated using the perpetual inventory method, which takes into account the continual additions to and subtractions from the stock of capital as new investment and retirement of old capital take place. The perpetual inventory method measures stocks at the end of a year equal to a weighted sum of all past investments, where the weights are the asset's efficiency relative to a new asset. A hyperbolic age-efficiency function is used to calculate the relative efficiency of an asset at different ages.

The hyperbolic age-efficiency function can be expressed:

$$S_t = (L-t)/(L-(B)t)$$

where:

$S_t$  = the relative efficiency of a  $t$ -year-old asset

$L$  = the service life

$t$  = the age of the asset

$B$  = the parameter of efficiency decline



The parameter of efficiency decline is assumed to be 0.5 for equipment and 0.75 for structures. These parameters yield a function in which assets lose efficiency more slowly at first, then rapidly later in life.

Stocks of equipment, structures, inventories, and land are estimated separately. Individual price deflators for each asset category are constructed and used to convert the current-dollar investment to constant dollars. Industry-specific service lives are computed for each type of equipment asset for use in the perpetual inventory method. Current-dollar values of inventory stocks are calculated for three separate categories of manufacturers' inventories: Finished goods, work in process, and materials and supplies. Inventory stocks for each year are calculated as the average of the end-of-year stocks in years  $t$  and  $t-1$  to represent the average used during the year as a whole. This is also done with equipment, structures, and land. Current-dollar inventory values for the three categories of inventories are deflated with appropriate price indexes.

Land stocks are estimated as a function of the movement in constant-dollar gross structures stocks for the given industry.

The various equipment, structure, inventory, and land stock series in constant dollars are aggregated into one capital input measure using estimated rental prices as weights. The method of calculating rental prices is similar to that used in calculating multifactor productivity for major sectors of the economy except that no attempt is made to incorporate the effects of indirect business taxes, for which data are lacking at the industry level.

Rental prices are expressed in rates per constant dollar of productive capital stocks. Each rental price is multiplied by its constant-dollar capital stock to obtain current-dollar capital costs which are then converted to value shares for Tornqvist aggregation.

Industry capital indexes are developed from basic data published and maintained by the Bureau of the Census and the Bureau of Economic Analysis, U.S. Department of Commerce; the Office of Employment Projections, Bureau of Labor Statistics; and the Interstate Commerce Commission. Price indexes are derived from producer price indexes developed by the Bureau of Labor Statistics.

### **Intermediate purchases**

The index of intermediate purchases input is an aggregate of separate indexes of change in real materials, services, fuels, and electricity consumed by an industry. With the exception of electricity, for which both price and quantity data are available, the above indexes are calculated by dividing annual current-dollar values by appropriate price indexes to obtain constant-dollar annual estimates. Separate price deflators for materials and fuels for each industry are constructed using detailed price and value data for individual subcomponents of each group. The aggregate deflators are divided into the current-dollar values to derive constant-dollar estimates. The constant-dollar series for each

component are indexed by dividing each year's estimate by the base-period aggregate.

The indexes of change in real materials, services, fuels, and electricity are weighted together in a Tornqvist aggregation with value share weights to derive an aggregate intermediate purchases index. These weights are derived by dividing the current-dollar values of each by the total combined value of intermediate purchases, and averaging these weights at times  $t$  and  $t-1$ .

Industry intermediate purchases indexes are developed from basic data published by the Bureau of the Census, the Bureau of Economic Analysis, the Interstate Commerce Commission, and the Association of American Railroads.

### **Weights for major input components**

The indexes representing quantity change for each of the three major inputs are Tornqvist-aggregated to compute the index of combined inputs. The relative weights for each year are derived from total costs for each input. All-employee labor costs, including fringe benefits, are used for the labor weight. The sum of current-dollar values for materials, services, fuels, and electricity constitute the weight for intermediate purchases. The weight for capital is derived by subtracting labor costs and the value of intermediate purchases from total revenue. These compensation shares are averaged at time  $t$  and  $t-1$ .

## **Government Labor Productivity Measures**

### **Federal**

Indexes of output per employee year, output, and employee years for selected functional categories of government activity and for 276 participating organizations are constructed in a manner similar to that described for industries.<sup>2</sup> In addition, indexes of compensation per employee year and unit labor costs are calculated. At the present time, these indexes cover about 64 percent (1.9 million employee years) of the Federal civilian work force.

Ideally, a productivity index should relate final outputs to their associated direct and indirect input(s), and, in fact, the output data are final from the perspective of the functional categories within which these data are classified. The outputs of one organization may be consumed wholly or partially by another Federal organization in the production of its final outputs. As a consequence, all output indicators in the measured portion of the Federal Government may not be final from the perspective of a higher level of organization; for example, the entire Federal Government. Therefore, the overall statistics do not represent "Federal productivity" but, rather, the productivity changes in the weighted aggregate of the Federal organizations that are included. The measure combines the output indexes of all 276 organizations, using

<sup>2</sup> See list of functional categories accompanying discussion in text for definitions.

employee year weights. The index of this aggregate is divided by an aggregate employment index to compute the overall productivity index for the participating Federal organizations.

Through an annual collection process, most data are submitted directly by agencies to BLS, but in some cases data are obtained from secondary sources such as agency budgets and annual reports. Approximately 2,500 products and services are aggregated into output indexes by combining the quantities of each type of output using their respective base-year labor requirements as weights. These unit employee-year weights are constructed from the detailed output and input data provided by each organization. Although the weights relate to fixed periods, they are updated every 5 years. The output segments are linked and referenced to a fiscal year 1987 base; the fiscal year is October 1 through September 30.

The organizational indexes are grouped into 28 functional categories, based on similarity of activity. Some of these categories, such as printing and duplication, are more homogeneous than others, such as general support services, which include many diverse activities. Nonetheless, these categories provide insight into the trends for the Federal Government. Although the indexes are also constructed for each participating organization, these are not published but are returned to each organization for its own use (for example, to stimulate further examination of the causes of productivity change within each organization). This is one method used by BLS to validate the basic data (that is, by examining the reasonableness of the derived trends).

Employee-year indexes are developed from agency data submissions and secondary sources. As in all labor input measures used by the Bureau to develop productivity indexes, employee years are considered homogeneous and additive. Each employee year reflects the regularly scheduled time, overtime, and leave time of all full-time, part-time, and intermittent employees. An employee year is equivalent to one individual paid for 2,087 hours.

The compensation indexes include wages, salaries, and benefits including retirement, merit pay increases, incentive pay, health insurance, and the like. Data to compute the indexes are taken from agency data submissions and sec-

ondary sources. The unit labor cost index is derived by dividing the index of compensation by the index of output.

## State and local

Government measurements are being extended to include indexes of output per employee year, output, and employee years for selected State and local services. A cross-section of services is being examined and indexes computed using concepts and methods similar to those for industries and the Federal Government. This research, which uses published and readily available secondary data, is keyed to the Standard Industrial Classification system.

Output indexes reflect final services to the public. The consequences or effectiveness of government service are not measured. The focus is on government production. For example, prison system outputs are the number of prisoners housed and the number to whom treatment is administered, not the effectiveness of rehabilitation or community safety. Output data are taken from Federal agencies such as the Departments of Labor, Justice, and Transportation and from industry groups such as the American Public Power Association, American Public Transit Association, and Distilled Spirits Council of the U.S.

Employee year index computations use the same general concepts as those used in the Federal measurements. The primary source of employment data is the Bureau of the Census's annual public employment survey. This is supplemented by data from Federal agencies and industry associations when available.

## Rates of Change

The rates of change published in this bulletin are average annual percent changes calculated using the compound rate formula:  $((X_T/X_I)^{1/n} - 1) \cdot 100$ , where  $X_i$  is the value of an index number in year  $i$ ,  $I$  is the initial year of the period,  $T$  is the terminal year of the period, and  $n$  equals  $T$  minus  $I$ . The rates of change shown in each table indicate the first year of available data, in some cases beginning in 1947. However, due to space limitations, the tables in this bulletin do not provide indexes prior to 1967. Indexes and average annual rates of change for time periods not shown are available on request from the Bureau of Labor Statistics.

## Appendix B. BLS Publications on Productivity and Technology

### How to order

Reprints and news releases are available free of charge, as long as the supply lasts, from the Office of Productivity and Technology, Room 2150, Bureau of Labor Statistics, 2 Massachusetts Ave., NE, Washington, DC 20212-0001 or from the Bureau's regional offices (see addresses on the inside back cover.) Electronic access to productivity news releases is available for a fee. For details, contact the Office of Publications, Room 2860, Bureau of Labor Statistics, 2 Massachusetts Ave., NE, Washington, DC 20212-0001.

The *Monthly Labor Review* is available by subscription or single copy from New Orders, Superintendent of Documents, P.O. Box 371954, Pittsburgh, PA 15250-7954 (\$25 a year domestic; \$31.25 foreign). Make checks payable to Superintendent of Documents.

Bulletins may be purchased from New Orders, Superintendent of Documents or the BLS Publications Sales Center, P.O. Box 2145, Chicago, IL 60690.

Papers and information regarding reports and articles published prior to 1987 are available from the Bureau's Office of Productivity and Technology.

### Productivity trends in individual industries

"Multifactor Productivity in Household Furniture," by Thomas M. Muth II and Edna Thea Falk, *Monthly Labor Review*, forthcoming.

*Productivity and the Economy: A Chartbook*, BLS Bulletin 2431, September 1993.

"Productivity in Industry and Government, 1973-91," by Alexander Kronemer, *Monthly Labor Review*, July 1993, pp. 44-51.

"Productivity in aircraft manufacturing," by Alexander Kronemer and J. Edwin Henneberger, *Monthly Labor Review*, June 1993, pp. 24-33.

"Industry productivity in natural and processed cheese," by Daniel J. Curtin, *Monthly Labor Review*, April 1993, pp. 26-32.

"Productivity Measures for Transportation Industries," by John Duke. A paper presented at the Highway-Related Transportation Industry Productivity Measures Symposium,

Arlington, VA, November 20, 1992.

"Bureau of Labor Statistics Productivity Measures for Service Industries," by Edwin R. Dean and Kent Kunze. A paper presented at the Conference on Service Productivity and Quality Challenge, Philadelphia, PA, October 23, 1992.

"Productivity in the Nuts and Bolts Industry, 1958-90," by Ziaul Z. Ahmed and Mark Sieling, *Monthly Labor Review*, October 1992, pp. 10-15.

"Productivity Trends: Prepared Fish and Seafoods Industry," by Mark W. Dumas, *Monthly Labor Review*, October 1992, pp. 3-9.

"Productivity in Wood Containers," by James York, *Monthly Labor Review*, October 1992, pp. 16-19.

"Multifactor Productivity in Railroad Transportation," by John Duke, Diane Litz, and Lisa Usher, *Monthly Labor Review*, August 1992, pp. 49-58.

"Productivity in Crude Oil and Gas Production, 1959-1990," by Brian Friedman, *Monthly Labor Review*, March 1992, pp. 9-17.

"Productivity Measures: Industries and Government," reprint of chapter 11 of *BLS Handbook of Methods*, Bulletin 2414, 1992.

"Productivity Trends in Selected Industries," by Charles Ardolini and Mark Scott Sieling, *Business Economics*, October 1991, pp. 26-30.

"Multifactor Productivity in the Farm and Garden Equipment Industry," by Edna Falk and Diane Litz, *Monthly Labor Review*, June 1991, pp. 27-38.

"Productivity in the Rubber and Plastics Hose and Belting Industry," by John W. Ferris and Virginia L. Klarquist, *Monthly Labor Review*, July 1990, pp. 26-31.

"Productivity Trends in the Photographic Equipment and Supplies Industry," by Clyde Huffstutler and Stuart Kipnis, *Monthly Labor Review*, June 1990, pp. 39-49.

"Productivity Trends in Scrap and Waste Processing," by Mark Scott Sieling, *Monthly Labor Review*, April 1990, pp. 30-37.

"Productivity in the Retail Auto and Home Supply Stores Industry," by Patricia S. Wilder, *Monthly Labor Review*, August 1989, pp. 36-39.

"Multifactor Productivity Advances in the Tires and Inner Tubes Industry," by Diane Litz and Linda Moore, *Monthly Labor Review*, June 1989, pp. 19-27.

"Multifactor Productivity Slips in the Nonrubber Footwear Industry," by John Duke and Lisa Usher, *Monthly Labor Review*, April 1989, pp. 32-38.

"Productivity in Agricultural Chemicals Industries," by Horst Brand and Kelly Bryant, *Monthly Labor Review*, March 1989, pp. 21-27.

"Productivity in the Carburetors, Pistons, and Valves Industry," by John W. Ferris and Virginia L. Klarquist, *Monthly Labor Review*, February 1989, pp. 43-46.

"Patterns of Productivity Change in Men's and Boys' Suits and Coats," by Mark Scott Sieling and Daniel Curtin, *Monthly Labor Review*, November 1988, pp. 25-31.

"Variety Stores Experience Shifting Trend in Productivity," by James D. York, *Monthly Labor Review*, October 1988, pp. 30-33.

"Productivity Growth Slows in the Organic Chemicals Industry," by Clyde Huffstutler and Barbara Bingham, *Monthly Labor Review*, June 1988, pp. 44-51.

"Retail Hardware Stores Register Productivity Gain," by Patricia S. Wilder and Virginia L. Klarquist, *Monthly Labor Review*, May 1988, pp. 39-43.

"Productivity Trends in the Cotton and Synthetic Broadwoven Fabrics Industry," by Mark W. Dumas and J. Edwin Henneberger, *Monthly Labor Review*, April 1988, pp. 34-38.

"Productivity Trends in Department Stores, 1967-86," by Brian L. Friedman, *Monthly Labor Review*, March 1988, pp. 17-21.

"Productivity Shows a Decline in Automotive Repair Shops," by John G. Olsen and Richard B. Carnes, *Monthly Labor Review*, March 1988, pp. 22-26.

"Productivity Gains Lukewarm for Makers of Nonelectric Heating Equipment," by John W. Ferris and Virginia L.

Klarquist, *Monthly Labor Review*, March 1988, pp. 27-32.

"Productivity in Industrial Inorganic Chemicals," by Horst Brand and Ziaul Z. Ahmed, *Monthly Labor Review*, March 1988, pp. 33-40.

"Performance of Multifactor Productivity in the Steel and Motor Vehicles Industries," by Mark K. Sherwood, *Monthly Labor Review*, August 1987, pp. 22-31.

"The Mining Machinery Industry: Labor Productivity Trends, 1972-84," by Barbara A. O'Neil, *Monthly Labor Review*, June 1987, pp. 31-35.

"Productivity Trends in the Furniture and Homefurnishings Stores Industry," by Arthur S. Herman and J. Edwin Henneberger, *Monthly Labor Review*, May 1987, pp. 24-29.

"Two Decades of Productivity Growth in Poultry Dressing and Processing," by Ziaul Z. Ahmed and Mark Sieling, *Monthly Labor Review*, April 1987, pp. 34-39.

"Retail Liquor Stores Experience Flat Trend in Productivity," by James D. York, *Monthly Labor Review*, February 1987, pp. 25-29.

### **Productivity trends in government**

*Description of Output Indicators by Agency for the Federal Government, Fiscal Year 1992.* Bureau of Labor Statistics, March 1994. Compiled annually.

*Description of Output Indicators by Function for the Federal Government, Fiscal Year 1992.* Bureau of Labor Statistics, March 1994. Compiled annually.

*Productivity Statistics for Federal Government Functions, Fiscal Years 1967-92.* Bureau of Labor Statistics, February 1994. Summary indexes of output per employee year, output, employee years, and other related data for 28 functions and the total measured portion of the Federal government. Compiled annually.

*Federal Government Productivity Highlights, Fiscal Years 1967-92.* Bureau of Labor Statistics, February 1994. Summary indexes of output per employee year, output, employee years, and other related data for the Federal Government. Compiled annually.

"Accounting for Productivity Change in Government," by Edwin R. Dean. A paper presented at the Workshop on Modernizing the Government Sector of the Economic Accounts, sponsored by the Committee on National Statistics of the National Research Council, Washington, D.C., November 18-19, 1993.



"Using Productivity Measures as a Foundation for Performance Measurement," by Darlene Forte. A paper presented at the Second International Symposium on Productivity and Quality Improvement with a Focus on Government, Washington, D.C., September 1993.

"Measuring Federal Government Productivity," by Darlene Forte. In *Handbook for Productivity Measurement and Improvement*, William F. Christopher and Carl G. Thor, editors, Productivity Press, January 1993.

"The Challenge: Measuring Productivity in the Government," by Darlene Forte. In *Productivity and Quality in Government*, Industrial Engineering and Management Press, February 1992.

"Public Sector Productivity Measurement: U.S. Federal Government Agencies," by Jerome A. Mark. A paper presented at the European Association of National Productivity Centers Conference, Athens, Greece, October 5-8, 1988.

"Productivity Measurement as a Tool in Federal Management Improvement," by Charles W. Ardolini. Testimony before the U.S. Subcommittee on Civil Service, Post Office, and General Services of the Committee on Government Affairs, September 19, 1984.

### **Concepts and techniques of productivity measurement**

"Estimating Savings and Growth Functions in Developing Economies: A Simultaneous Equations Approach," by Aklilu A. Zegeye, *International Economic Journal*, forthcoming.

"Difficulties in the Measurement of Service Outputs," by Mark Sherwood, *Monthly Labor Review*, forthcoming.

*Labor Composition and U.S. Productivity Growth, 1948-90*, BLS Bulletin 2426, December 1993.

"Productivity Measures Under a Disequilibrium Framework," by Aklilu Zegeye. Discussion paper presented at the Eastern Economic Conference, Washington, DC, March 19-22, 1993.

"The Cyclicalities of Productivity Measures: Are There Increasing Returns?" by Michael J. Harper and Susan G. Powers. A paper presented at the Society of Government Economists, Allied Social Sciences Meeting, January 1993.

"Bureau of Labor Statistics Productivity Measures for Service Industries," by Edwin R. Dean and Kent Kunze. A paper presented before the International Productivity Symposium V, Oslo, Norway, June 15-18, 1992.

"High-Tech Capital Formation and Labor Composition in

U.S. Manufacturing Industries: An Exploratory Analysis," by Ernst Berndt, Catherine Morrison, and Larry Rosenblum, NBER Working Paper No. 4010, March 1992.

"Stocks of Knowledge, Research and Development, and Productivity Growth," by Leo Sveikauskas and James Adams. A paper presented at the Society of Government Economists, Allied Social Sciences Meeting, January 1992.

"Productivity Measurement in Service Industries," by Edwin R. Dean and Kent Kunze. In *Output Measurement in the Service Sectors, Studies in Income and Wealth*, Vol. 56, Zvi Griliches, editor, University of Chicago Press for the National Bureau of Economic Research, Chicago, 1992.

"Cyclicalities of Labor Productivity Measures," by Lawrence Fulco, Michael J. Harper, and Susan G. Powers. A paper presented at the Atlantic Economic Association Meeting, October 1991.

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"Productivity, Age, and Labor Composition Changes in the U.S.," by Mary Jablonski, Larry Rosenblum, and Kent Kunze. In *The Aging of the American Workforce*, Irving Bluestone, Rhonda J. V. Montgomery, and John D. Owen, editors, Wayne State University Press, 1990, pp. 304-338.

"Rates of Return and Capital Aggregation Using Alternative Rental Prices," by Michael J. Harper, Ernst R. Berndt, and David O. Wood. In *Technology and Capital Formation*, Dale W. Jorgenson and Ralph Landau, editors, MIT Press, 1989, pp. 331-372.

"Energy, Obsolescence, and the Productivity Slowdown," by Charles R. Hulten, James W. Robertson, and Frank C. Wykoff. In *Technology and Capital Formation*, Dale W. Jorgenson and Ralph Landau, editors, MIT Press, 1989, pp. 225-258.

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"Productivity Measures: Business sector and major subsectors," reprint of chapter 10, *BLS Handbook of Methods*, BLS Bulletin 2414, 1992.

*Multifactor Productivity Measures: Private Business, Private Nonfarm Business, and Manufacturing*. Data available since 1945. Annual news release.

*Productivity and Costs: Business, Nonfarm Business, and Manufacturing*. 1947 to the present. Quarterly and annual news releases.

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*Survey of Hours at Work*. Bureau of Labor Statistics. Data available since 1981. Annual; fall.

"Hours at Work: A New Base for BLS Productivity Statistics," by Mary Jablonski, Kent Kunze, and Phyllis Otto, *Monthly Labor Review*, February 1990, pp. 17-24.

"Recent Changes in the Growth of U.S. Multifactor Productivity," by Edwin Dean and Kent Kunze, *Monthly Labor Review*, May 1988, pp. 14-22.

"Multifactor Productivity in U.S. Manufacturing, 1949-83," by William Gullickson and Michael J. Harper, *Monthly Labor Review*, October 1987, pp. 18-28.

## Technology studies

*Technology and Its Effect on Labor in the Steel Industry*, forthcoming from the Bureau of Labor Statistics.

*Technology and Labor in Oil and Gas Extraction and Commercial Banking*, BLS Bulletin 2432, October 1993.

*Technology and Labor in Copper Ore Mining, Household Appliances, and Water Transportation*, BLS Bulletin 2420, May 1993.

*Technological Change and Its Impact on Labor in Four Industries* (coal mining, pharmaceuticals, metalworking machinery, and eating and drinking places), BLS Bulletin 2409, October 1992.

*Outlook for Technology and Labor in Hospitals*, BLS Bul-

letin 2404, May 1992.

"Technological Change," reprint of chapter 12 of the *BLS Handbook of Methods*, Bulletin 2414, 1992.

*Technology and Its Impact on Employment in the Life and Health Insurance Industries*, BLS Bulletin 2368, September 1990.

*Technology and Labor in Three Service Industries* (utilities, retail trade, and lodging) BLS Bulletin 2367, September 1990.

*Outlook for Technology and Labor in Telephone Communications*, BLS Bulletin 2357, July 1990.

*Technological Change and Its Labor Impact in Four Industries* (contract construction, railroad transportation, air transportation, petroleum pipeline transportation), BLS Bulletin 2316, December 1988.

"Technological Change and Employment: Some Results from BLS Research," by Jerome A. Mark, *Monthly Labor Review*, April 1987, pp. 26-29.

## International comparisons

"International comparisons of manufacturing unit labor costs," by Arthur Neef, Christopher Kask, and Christopher Sparks, *Monthly Labor Review*, December 1993, pp. 47-58.

"Employment change and sectoral distribution in 10 countries, 1970-90," by Todd Godbout, *Monthly Labor Review*, October 1993, pp. 3-20.

"International Comparisons of Unemployment Indicators," by Constance Sorrentino, *Monthly Labor Review*, March 1993, pp. 3-24.

"Foreign Labor Statistics," reprint of chapter 13, *BLS Handbook of Methods*, Bulletin 2414, 1992.

"Union Membership Statistics in 12 Countries," by Clara Chang and Constance Sorrentino, *Monthly Labor Review*, December 1991, pp. 46-53.

*International Comparisons of Manufacturing Productivity and Labor Cost Trends*. Bureau of Labor Statistics. Annual news release; usually in summer.

*International Comparisons of Hourly Compensation Costs for Production Workers in Manufacturing*. Semiannual BLS report; spring and fall.

*Comparative Labor Force Statistics for 10 Countries*. Bureau of Labor Statistics. Semiannual; spring and fall.



"Manufacturing Productivity and Labor Costs in 14 Economies," by Arthur Neef and Christopher Kask, *Monthly Labor Review*, December 1991, pp. 24-37.

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"Comparative Changes in Labor Productivity: United States and Western Europe," by Arthur Neef. A paper presented at the Atlantic Economic Conference, Session on Recent Productivity Developments in Major Nations, Williamsburg, Virginia, October 1990.

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"Employment and Unemployment Patterns in the United States and Europe, 1973-87," by Ronald E. Kutscher and Constance Sorrentino, *Journal of Labor Research*, Vol. X, No. 1, Winter 1989, pp. 5-22.

"An International Comparison of Manufacturing Productivity and Unit Labor Cost Trends," by Arthur Neef. A paper presented at the Social Science Research Council Conference on International Productivity and Competitiveness, Palo Alto, California, October 28-30, 1988.

"Statistics for Assessing International Competitiveness," by Jerome A. Mark. A paper presented at the U.S.-Israeli Department-to-Ministry Seminar Program, Jerusalem, Israel, October 17-20, 1988.

"An Analysis of Unemployment and Other Labor Market Indicators in 10 Countries," by Joyanna Moy, *Monthly Labor Review*, April 1988, pp. 39-50

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Cereal breakfast foods.....	24	Drug stores and		Fruits and vegetables:	
		proprietary stores.....	172	Canned.....	19

Industry	Table	Industry	Table	Industry	Table
Frozen	20	Hosiery	39	Cotton	38
Preserved	18	Hotels and motels	175	Grain	21-27
Furniture:		Household appliance stores	169	Hosiery	39
Household	49, 181-182	Household appliances, nec	132	Synthetic fibers	38
Office	54	Household audio and video equipment	135	Wood	42-43
Furniture and home furnishings stores	167	Household cooking equipment	129	Yarn	40
Garden machinery	109	Household furniture:		Millwork	43
Gas and electric utilities	148	Labor productivity	49	Mining:	
Gas extraction	8	Mattresses and bedsprings	53	Coal	6-7
Gas utilities	150	Metal furniture	52	Copper	4-5
Gasoline service stations	160	Multifactor productivity	181-182	Iron	2-3
Generators	127	Upholstered furniture	51	Nonmetallic minerals	9
Glass containers	80	Wood furniture	50	Oil shale	8
Government, Federal		Household laundry equipment	131	Stone	10
Audit of operations	196	Household refrigerators and freezers	130	Mining machinery	113
Buildings and grounds	197	Hydraulic cement	81	Miscellaneous plastic products, nec	78
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Electric power production and distribution	200	Chlorine	62	Labor productivity	136
Equipment maintenance	201	Pigments	63	Multifactor productivity	191-192
Finance and accounting	202	Miscellaneous	64	Motors and generators	127
General support services	203	Industrial organic chemicals, nec	69	Multifactor measures:	
Information services	204	Inorganic pigments	63	Farm and garden machinery	189-190
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Loans and grants	207	Internal combustion engines, nec	108	Motor vehicles and equipment	191-192
Medical services	208	Iron mining, crude ore	2	Railroads	193-194
Military base services	209	Iron mining, usable ore	3	Steel	187-188
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Personnel management	212	Laundry, cleaning, and garment services	176	Nitrogenous fertilizers	71
Postal service	213	Laundry equipment	131	Nonmetallic minerals, except fuels	9
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Regulation-rulemaking and licensing	218	Machine tools	115	Office furniture, except wood	56
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Traffic management	222	Farm	110	Paper and allied products:	
Transportation	223	Garden	109	Bags	60
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Animal feed	27	Meat packing plants	12	Petroleum refining	75
Cereal	24	Meat products:		Phosphatic fertilizers	72
Corn	26	Poultry	14	Photocopy equipment	139
Flour	22-23	Red meat	11	Photographic equipment and supplies	139
Rice	25	Sausage	13	Pigments	63
Gray iron and ductile foundries	90	Men's and boys' clothing stores	162	Pipe fittings	106
Grocery stores	156	Men's and boys' suits and coats	41	Pipelines	146
Hand and edge tools, nec	98	Metal cans	97	Plastic products:	
Hardware stores	152	Metal cutting machine tools	116	Bags	60
Hardwood veneer and plywood	46	Metal doors, sash, and trim	101	Miscellaneous	78
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<i>Industry</i>	<i>Table</i>	<i>Industry</i>	<i>Table</i>	<i>Industry</i>	<i>Table</i>
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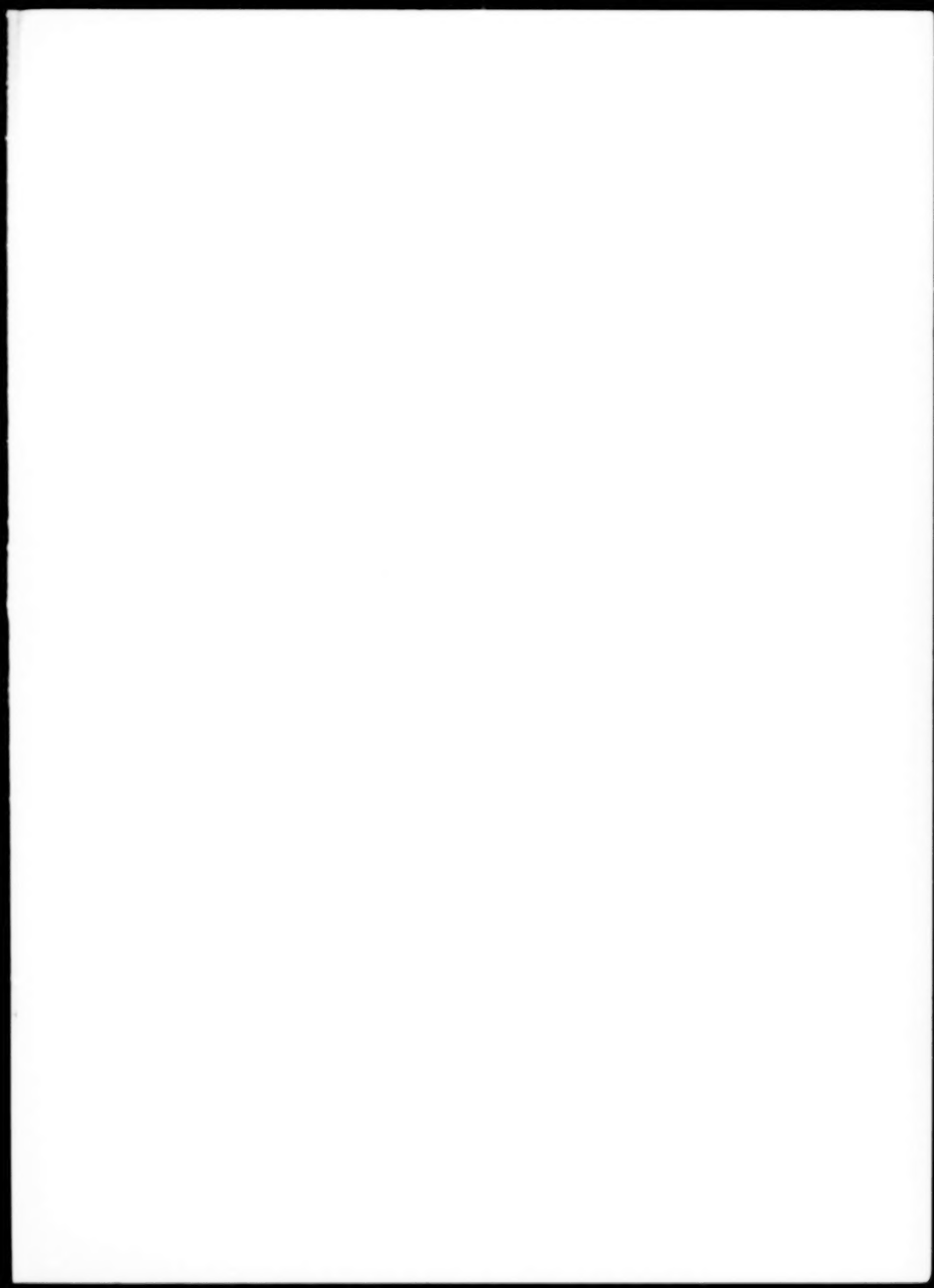
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